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AMERICAN BEE JOURNAL

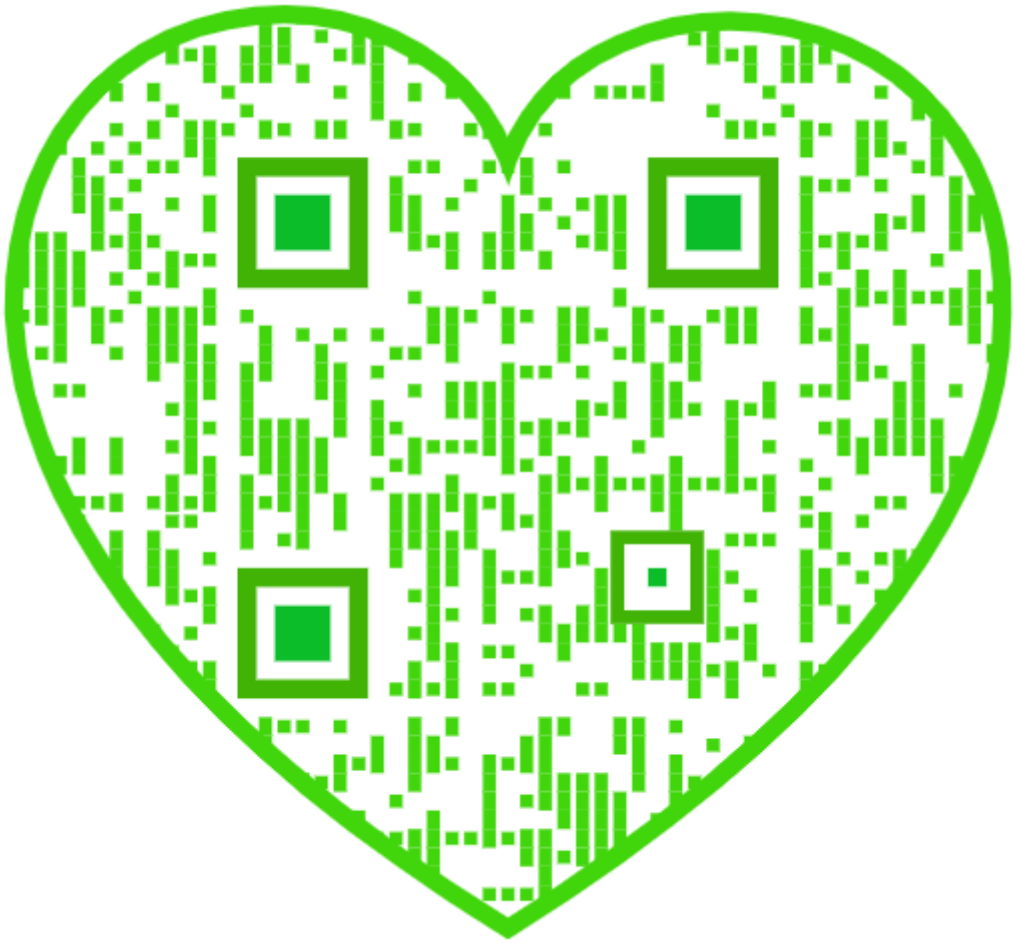
GEORGE W. YORK, Editor.

CHICAGO, ILL., JANUARY 3, 1901.

FORTY-FIRST YEAR
No. 1.

WEEKLY

MR. GASTON BONNIER,
President of the International Bee-Keepers' Congress, Held in Paris, Sept. 10, 11 and 12, 1900.



THE AMERICAN BEE JOURNAL

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—BY—

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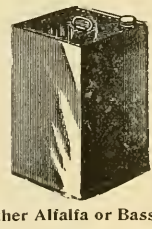

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AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., JANUARY 3, 1901. No. 1.

Editorial.

1901—Volume XLI.—The first year of the new century is here—the 20th century. The first number of the 41st volume of the American Bee Journal is also here. Tho the past century was one of wonderful improvements and developments, we suppose this new century we are just entering upon will be still more wonderful. That hardly seems possible, and yet it doubtless will be true.

But what of the old American Bee Journal in this 20th century? It also must keep step with the progressive spirit of this rapidly advancing age. And it will do so. We need not make any promises for the future to those who have been reading the old American Bee Journal during the past 10 or more, or even less, years. We mean to keep its standard up hereafter as we have tried to do in the past. We realize that this we can not do alone—we must have the hearty and continued support and encouragement of the bee-keepers themselves. We believe we will have it—at least we will endeavor to merit it.

We can all, then, look forward to the coming years with a strong faith and a high hope, realizing that in a united effort for the right we shall be successful in all that is worthy and true.

The Utter vs. Utter Case in New York State, which has been referred to in these columns several times the past few months, came to trial again, and was decided in favor of the bee-keeper, on Dec. 19th.

Mr. O. L. Hershiser, superintendent of the apiarian exhibit at the Pan-American Exposition, being present and assisting during the trial, the following account written by him will be read with great satisfaction by all, and particularly by the members of the National Bee-Keepers' Association, whose money helpt their fellow member to win his case:

MY DEAR MR. YORK:—I enclose you newspaper clippings concerning the now famous case of Utter vs. Utter, and will request that remaining papers containing accounts of the case be forwarded to you by the publishers. In the meantime, let me tell you so you will have no dismal apprehensions concerning the result of the litigation, that the bees were entirely exonerated of the charge of mischief as complained of. The case occupied over two days, the jury being nearly all drawn on Monday afternoon, and the jury's verdict brought in at about dusk on Wednesday evening.

For a case involving such insignificant damages, I've seen nothing that has created so much interest to lawyers and sensation to the people, in many a day, as did this case. It seemed to be the only subject of conversation for the people in the hotels, railway stations and stores, and by groups of people on the streets. Besides local witnesses, the plaintiff had Mr. Banes—a fruit-grower of New Hampshire; and the defense, besides local witnesses, had several fruit-growers and apiarists from New Jersey, A. I. and E. R. Root from Ohio, Frank Benton from Washington, Mr. Marks from this State, and your humble servant as counsel and witness.

I understand the jury's first ballot was 10 votes to 2 blanks for no cause of action, which was immediately made unanimous for no cause of action. They were out scarcely five minutes. Was not that a *complete* victory?

Too much credit can not be given the just judge for his fair and impartial attitude and rulings on every disputed point, and for the great learning and ability of Messrs. Bacon & Merritt. And while passing, I desire that you know that learned and astute counsel were opposed to us in the persons of Messrs. F. V. Sanford and M. N. Kaine, both of whom are scholarly and gentlemanly members of the legal fraternity; and while they brought to bear all their scholarly attainments and legal acumen in this very bitterly contested case, I think that all on the opposite side will agree that they were treated in a gentlemanly and dignified manner.

Of course, you will observe that the scene of of this *fight* was in the village of *Amity*, which, to say the least, was very ironical; that, metaphorically speaking, one brother sought to kill, or "do up" the other, and that this fratricide might be accomplisht according to ancient usage, as recorded in Holy Writ, *Kaine* was brought in to assist one of the brothers in his fell purpose. However, the plaintiff would not be disposed of in this summary manner, and knowing of a firm of distinguisht legal gentlemen, who, be it said, *Merritt* their *Bacon*, he enlisted them in his behalf. These lawyers were *Bent on* (Benton) going to the *Root* of the matter, and, accordingly, sent for certain gentlemen from Washington and Ohio to assist them in getting down to first principles. The *Utter* absurdity of the plaintiff's claims were made apparent to all observers, after the gentleman from Chapinville had made *Marks* of his witnesses, by proving to the jury that in their claims that bees puncture peaches they were simply "talking thru their hats." And now that it has been judicially settled, that the claims of the plaintiff were too *Utterly Utter*, I think we are justified in believing that peace will reign in *Amity* again. Yours truly,

OREL. L. HERSHISER.

From the clippings kindly sent us by Mr. Hershiser, we take these paragraphs, the newspaper in which they appeared being the Middletown (N. Y.) Daily Argus:

The case was opened for the plaintiff by Mr. Sanford. He said he askt only $100 damages; that the case was not one which charged that peaches and trees had been destroyed by stinging. He claimed about as follows: The two Utters lived near Amity, in the town of Warwick. One raises peaches, the other is a keeper of bees. William H. owns 4,000 peach-trees. Forty rods from one of his orchards are several hundred hives belonging to his brother. The bees from these hives acquired the habit of flying over to the orchard and "puncturing" his peaches, sucking the fruit, and making great quantities of it unfit for market. The juice trickling from the fruit would form a substance about the branches of the trees, which, in time, destroyed the branches, and in time 49 trees were totally destroyed.

Wm. H. Utter, the plaintiff, was the first witness. This is the substance of his testimony: On July 5th last he walkt into his orchard and noticed that there were many bees in his peach-trees. Every day after that the bees began to get thicker and thicker. He counted as many as 14 bees on a peach, and saw so many others on other peaches that he couldn't count them. He watcht their operations. A single bee would come up to the peach, walk all around it, pick out a good spot, and put its nose in. Then it would wiggle its head one way and then it would wiggle it another. Then it would stand upon its feet and pull out its nose. Then another bee would come and find the hole. Then a third and fourth, and a whole lot of bees would come to that peach, and in less than a week the peach would die.

This is the way he found out that the bees were from his brother's hives: He built a box and put flour in it. Then by another contrivance he caught a lot of the bees on his peaches, put them in the flour-box, and when they had become white he permitted them to escape. Then he followed their line of flight, and in most cases they went direct to his brother's hives.

Next week we hope to have a further report on this celebrated case.

Clarifying of Wax.—It is a good thing to have the same thing viewed by many eyes, thereby reaching it from all sides. Regarding the clarifying of wax, the following kind note is received:

MY DEAR MR. YORK:—Haven't you made a little mistake in your editorial answer to Mr. Hill about the cooling of wax? The real truth is, that the time taken in the cooling of the wax makes no difference whatever—it is in the length of time it remains in a melted condition. The effect on color will be exactly the same if the wax should be slightly heating instead of cooling all the time it remains melted. And I can not conceive how you could possibly give the meaning you did to the quotation you made from Mr. Hill.

O. O. POPPLETON.

Decidedly Mr. Poppleton is correct, that the thing that makes a difference in the clarifying of the wax is the "length of time it remains in a melted condition," altho it is doubtful if any one has express the idea in that exact form before. But is it strictly correct to say that "the time taken in the cooling of the wax makes no difference whatever?" It is true that after the temperature of the wax has come down to the melting-point, it makes no difference whether it is ten seconds or ten years in getting down to the temperature of the surrounding atmosphere, but it does make a difference as to the time of the cooling of the wax down to about 145 degrees, just because the longer time it takes in cooling down to that point the longer time it is in the desirable melted condition.

Having agreed that slow cooling is not *per se*

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the thing desired, but only desirable because it leads to the right condition, the practical question comes, Is it better to say to a beginner, "You must cool your wax slowly?" or, "You must keep your wax a long time in a melted condition?" If he is told to cool his wax slowly, it is about certain that he will keep it a long time in a proper condition for the foreign particles to settle; at any rate, if any one has been misled by such a direction, it has not come to light.

Suppose, however, we try to be more exact, and say, "Your wax must remain a long time in a melted condition." One can easily fancy him saying, "Well, it will remain in a melted condition if I keep it hot, and I can just as well leave it on the stove half a day." So it remains "in a melted condition" for half a day—not only in a melted condition, but at so high a temperature that the particles are kept constantly in motion, and there is no chance for impurities to settle; and then it is taken off and allowed to cool rapidly, with the result that impurities are mixt all thru.

The best of all would be a full explanation.

Since the foregoing was written, the Bee-Keepers' Review has come to hand, and Editor Hutchinson says:

"The trouble with Bro. York's argument, as I understand him, is that he is confusing purity, or freedom from dirt, with that of color.....That is, he assumes that the dark color results from the presence of dirt....., time and again have I seen the brightest, yellowest wax fairly loaded with particles of dirt. If kept liquid a long time these particles settle to the bottom, but the color of the wax is not changed one *iota*."

There is no desire whatever to deny that two specimens of wax entirely free from impurities may be very different in color. But it is also true that a very large part of the beeswax thrown upon the market is of the kind he mentions—"fairly loaded with dirt." Now does Mr. Hutchinson mean to tell us that that dirt is of the same bright color as the wax when it is cleansed? Does a cake of it *look* just the same after cleansing as before? If the answer is in the affirmative, then there is something exceptional about the color of dirt in his locality. If a white handkerchief is covered with soot, we don't say it is white, but black.

Reformed Spelling. A correspondent writes that he would be a subscriber for life if it were not for the spelling which follows the rule, "Change *d* and *ed* final to *t* when so pronounced, as in *looked* (lookt), etc., unless the *e* affects the preceding sound, as in *chafed*, etc." He thinks until our lexicographers change the rule that makes the past tense and perfect participle of regular verbs end in *ed* there should be no change, and that it is confusing to children who are learning to spell to read this journal.

It would be hardly worth while to refer to the matter except for some who are recent subscribers. To them some explanation is due for departing from the general custom. This departure is not a whim of the American Bee Journal, not of a number of illiterate people. It is because our lexicographers, the ablest and best lexicographers of the world, *have* changed the spelling a fact of which our correspondent does not seem to be aware. If he will turn to page xvii of the Standard Dictionary, he will find the matter treated somewhat extensively. The change is endorst by the Philological Societies of England and America, and the Modern Language Association of America, the members of which include most of the recognized authority in linguistic science in England and America, among them Hon. Wm. T. Harris, LL. D., who for years has been the United States Commissioner of Education, and the late very able Max Muller, of England, with professors from leading colleges in both countries. There is no law compelling people to obey these rules, no more than there is to compel people to talk good English, but reforms having such strong arguments in their favor, and urged by such high authorities, will surely prevail in the end, and it is the part of wisdom promptly to fall in with them.

If the father and grandfather of our correspondent had been of his mind, very poor would have been his chances for much modern literature, for they would not have allowed him to read a book that did not continue the spelling to which they had first been accustomed, such as honour, labour, Atlantick, arctick, etc.

Weekly Budget

Mr. Thomas G. Newman, for so many years editor of this journal, and also general manager of the National Bee-Keepers' Union (a year ago united with the National Association), has this personal paragraph in the issue of his Philosophical Journal for Dec. 22, 1900:

The editor, in response to many requests for a public statement concerning his vision, would say that his health is much improved, but his sight has not yet returned sufficiently to allow him to read or write. This condition has prevailed now for more than a year, tho he has been taking daily magnetic or mental treatments the whole time, but he feels sure that full sight would soon return, if he could take a much-needed rest, the optic nerves being only partially paralyzed, thru excessive strain. Mrs. Newman is also much in need of rest, after the extra labor and care of the past year. Thomas G. Newman.

Mr. Newman's many old friends will all unite in the hope that he may soon have that necessary rest so that his eyes may recover. Also that Mrs. Newman may join him in the vacation.

Mr. Dadant's Paris Credentials, which he mentions in his article this week, read as follows:

Mr. C. P. Dadant,

Dear Sir:—I am pleased to inform you that the Board of Directors of the National Bee-Keepers' Association, thru its chairman, Mr. E. T. Abbott, has authorized me to present you this certificate of credentials, appointing you as their delegate to the International Congress of bee-keepers at Paris, or at any other meeting of bee-keepers which you may be able to attend during your trip abroad. On behalf of the Association, I desire to say that we feel that we have in you the person of all others the best fitted to represent American bee-keepers in Europe. Your large experience, covering many years of successful management with bees; your thoro acquaintance with all the latest methods and developments in use in this country and in Europe; your familiarity with the French language and customs—all these, and more, especially fit you for the position, and will entitle you to a degree of respect that could be accorded to almost no one else. Altho a native of France, we still consider you a typical American bee-keeper in every respect: and we desire you to convey to European bee-keepers our hearty good wishes, love and respect. We feel that we owe to dear old France a debt of gratitude for sending two of her best sons to America; and in sending one of them back to represent us, we bespeak for him a reception such as could be accorded to no other American bee-keeper—a man whom we are proud to honor, and who, in connection with his venerable father, has done much to advance the pursuit in this country and in Europe.

Yours very respectfully,

Ernest R. Root, *President.*
Dr. A. B. Mason, *Secretary.*

Mr. Fred W. Muth, of Hamilton Co., Ohio, with his friend, Mr. Hauk, made us a very pleasant call recently. They were on their way to visit among some of the manufacturers of bee-keepers' supplies. Mr. Muth having been an employee of Mr. C. H. W. Weber, of Cincinnati, for nearly two years past. Mr. Weber is well known to our readers as a dealer in honey and bee-keepers' supplies. Mr. Muth is a son of the late Chas. F. Muth, who did such a large honey-business in Cincinnati for so many years.

Mr. W. A. Pryal, of San Francisco Co., Calif., writing us Dec. 7th, said:

"The winter here is something fine, tho we are having slight fogs in the morning. These latter are said to be beneficial in warding off the cold weather, tho, to tell the truth, I think it is cold enough as it is—it is one of those cold spells that is full of dampness, the dampness being worse than dry cold. At any rate, all kinds of flowers, viz.: roses, geraniums, fuchsias, heliotropes, potato-vines, calla lilies, etc., are in bloom as if it were summer. The other day I took a little trip across the bay with some friends from Chicago, and visited Alameda, Oakland, and Berkeley. The day was a charming one, and the gardens and all landscape were arrayed in their best winter garb. The sun was so hot that none of us could wear wraps or overcoats. The Chicago folks were charmed with the climate and the cities they visited—the climate just delighted them.

"So far the whole State has been visited by copious rainfalls, and it may be fairly expected that a liberal amount is yet to come. This will make the coming season a bountiful one. Still, it is yet too early to count one's chickens."

Mr. Gaston Bonnier, whose portrait graces our first page this week, was president of the International Congress of bee-keepers at Paris, held during the World's Fair there last September, which is referred to by Mr. Dadant on another page. He was born in 1853. Being a cousin of the noted French apiarist, George DeLayens, he helpt him in his young days in making experiments on the size of hives at different altitudes. In 1873 he entered the Superior Normal School, where he was first student, then professor. In 1887 he was appointed professor of botany at the Sorbonne (University of Paris), and in 1897 was elected a member of the Academy of Sciences of Paris.

Without going into the details of works publisht by Mr. Bonnier, and of experimental demonstrations due him, we will only mention the following works: In 1879, "The Nectaries," an anatomical and physiological description of the nectar-producing organs in plants; in 1887, the "New Flora," in which are indicated the plants visited by bees; and in 1898, the "Cours Complet d'Apiculture." These publications all have a direct bearing upon bee-culture.

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 821.)

FEEDING BEES RIGHT OUTDOORS.

Suppose your colonies were away from other bees, wouldn't it be safe to feed right outdoors to them, and let them carry it in?

Mr. Aikin—No.

Mr. Fixter—I have fed by placing the feeder on top of the colony I wish to feed in the evening about sundown, and by morning they would have it all taken down. Put in the syrup lukewarm.

Mr. Wood—I have had experience in feeding; after the bees are all thru breeding is the best time to feed; then feed all at once. If it is cool weather warm the food. Confine the bees to the combs they can cover, don't let them scatter, put the feed on top, and keep them warm.

FEEDING SUGAR SYRUP TO BEES.

Mr. Moore—Is there any particular danger in feeding granulated sugar from its solidifying in the combs? How can that be prevented?

Mr. Root—We never have any trouble, and our scheme is always to feed syrup thin, about half sugar and half water. If you make it a third water and two-thirds sugar you are liable to have some sugar solidify; you can avoid it a good deal by putting in water or some sort of acid. I think it is better to make it thin.

Dr. Mason—By adding honey you never have that granulation.

Pres. Root—You want to make it thin; make it about half and half; if you make it thin enough it won't granulate.

A Member—How early do you feed it?

Pres. Root—In September and October, in our locality, when the days are warm.

Dr. Mason—If you use that much water the bees will have a great deal of work to do.

Mr. Fixter—Take 15 pounds of syrup, by the time that is in the cells, when you have two parts sugar and one water, you have over 10 pounds of food left.

Pres. Root—You have to figure according to that when you feed that thin syrup.

Mr. Fixter—I have tried that, and weighed the hives before the bees were fed, and weighed them afterwards.

Mr. Green—Don't you have trouble in feeding this thin food rather slow?

Mr. Fixter—I askt Mr. Root in feeding this thin syrup and feeding it rather slowly (as I supposed he would have to), if he did not have trouble with getting the bees started to brood-rearing.

Mr. Root—Sometimes we feed 10 or 15 pounds at a time. The main idea in feeding thin syrup is to have the bees convert that syrup into honey.

Mr. Green—Sometimes it becomes necessary to feed bees in rather cold weather, and at such a time we must either mix it with honey, as has been suggested, or boil with tartaric acid and feed it then at a proper consistency, nearly the consistency of honey, and feed it rapidly.

Dr. Mason—If I understand you correctly, I think I have learned something, Mr. President. You say, "The main idea in feeding thin syrup is to have the bees convert that syrup into honey." By adding one-half water do the bees make the sugar syrup into honey? Is that so?

Pres. Root—I want to qualify that a little.

Dr. Mason—I guess you would better.

Pres. Root—In making it thin, one-half sugar and one-half water, the bees have an opportunity to invert it. Prof. Cook calls it "digest." If you feed it too thick they won't digest it and convert it into honey.

Mr. Abbott—I want to offer my protest so that the stenographer will be sure to get it, and the bee-keepers assembled will be sure to understand it; that you can't feed sugar-syrup of any kind, to any kind of bees, and have it converted into honey [Applause], Prof. Cook to the contrary notwithstanding.

Pres. Root—What I mean by that is, it is not the same you get from flowers. What I mean by honey—real honey—is nectar from flowers stored by the bees in the combs and converted into honey; but nectar in cane-syrup is a good deal like we feed. What I am speaking of now is chemical honey, and not commercial honey.

Mr. Abbott—Either chemical or commercial honey. If you feed them cane-syrup you reap cane-sugar when you eat it.

Pres. Root—It will be be inverted, tho.

Mr. Abbott—No, it won't be inverted; it will simply be cane-sugar.

Pres. Root—Where is Prof. Gillette?

Mr. Taylor—There seems to be quite an issue between Mr. Cowan in his paper and Mr. Abbott.

Pres. Root—Mr. Abbott speaks of chemical honey or commercial honey. I don't care whether they have nectar from flowers or sugar-cane; if you give them time enough they will convert it into honey.

Mr. Moore—I will have to enter an emphatic protest against the use of this term "chemical honey." You might as well say "glucose honey;" it is the same thing in the eyes of the public. I have handled a family trade for 15 years, and I am *red hot* on the subject, and lots of people have said to me, "Do you feed your bees sugar to make honey?" I say even a bee doesn't make honey; she gathers honey from the flowers. You can't give it to people in this scientific way; if you do they won't understand it. I tell them bee-keepers don't practice that sort of thing. First, it doesn't pay us. I state here, you can take lots of bees and produce honey cheaper than you can get it from sugar-syrup and other things. I tell them more than that, you can't get your sugar-syrup into the combs; if you got it into the combs it wouldn't be honey—it would be sugar-syrup in the combs; it wouldn't pay. I am protesting against using terms that are misleading to the people who won't understand them. They are asking me these questions every day, and I must enforce my personality on that party before I can get his confidence. For the benefit of our pursuit, and for bee-keepers generally, I think we must avoid the error of speaking in misleading terms, and thus leading to misconceptions of our pursuit. [Applause.]

Mr. White—When we talk about sugar-syrup let us talk about it as only feeding to winter our bees; that we never sell any of it; it is simply to live on; it is just as good, I believe, when it is "inverted," as you call it—I don't want to know the term, anyhow—but it is just as good to winter our bees. I believe we can winter the bees on it all right, but let it go out that it is for *feed* and *not* for family use.

Pres. Root—If you feed the syrup too thick it will candy and go back to sugar. If you make it thin enough the bees will invert it.

Dr. Mason—Don't use the word "honey" in that connection.

A Member—I always heat the syrup hot. I think that is one reason why it does not candy in the comb.

Mr. York—I want to emphasize what has been said about feeding sugar, and saying what it is used for when you feed it to bees. I am very careful what is said on this subject in the American Bee Journal. I help my correspondents to say what it is used for—to *feed*, and not to produce honey, but to keep the bees alive. I put it in that way.

Dr. Mason—This is really a serious matter; if it should go out to the public that our honored president has been advocating anything of that kind, it would be a great damage to our fraternity here. I say we ought to keep this inside—not to say it at all in the first place. I am in dead earnest about this. Mr. Moore knows what it means. If our president goes out on the market and peddles it from house to house he will find out he would better not say sugar-syrup any more.

Pres. Root—I concede the point Dr. Mason makes, and the point of Mr. Moore and Mr. Abbott, and all these others. I am willing to be corrected on that. I will, if you prefer, use the word "inverted."

Mr. York—We should always say that we feed the bees for winter stores, or to keep them from starving. If the general public only did know, it wouldn't do any harm. But it is hard to get them to comprehend the matter correctly.

Mrs. Dunne—I think in speaking of storing sugar for winter use, we should confine ourselves to the bare fact,

and say it is given to stimulate the bees for brood-rearing, to store for winter food, and give none of them to understand it is to be converted into honey for any purpose.

Mr. Abbott—I was writing a resolution, and I don't know as I just understood what was said, but I infer that you meant to say unless the bees invert it or ripen it, it would go back into sugar; that syrup couldn't be made to do it—wouldn't go back into sugar without the bees did something to it. I feed my bees sugar-syrup to winter them; they eat sugar-syrup, and live on sugar-syrup instead of honey; it is sugar-syrup when I feed, and when a bee eats it it is never anything else but sugar-syrup, and I don't see any reason for calling it anything else.

Pres. Root—It is not chemically the same as it was before.

Mr. Abbott—It is absolutely the same as it was before, chemically; I can demonstrate clearly that it is so.

Pres. Root—I am only stating it as have Cowan, and Cheshire, and Dr. Headdon of the Colorado Experiment Station, and other scientists—they called it "inverted."

A. F. Morley—I have been reading that when bees are fed sugar-syrup they will fly out into the air and manufacture it over to some extent before they store it.

Mr. Fixter—If you allow the bees to store 25 or 30 pounds of syrup in the brood-chamber, aren't they going to carry that into the sections in the spring? How are you going to separate the sugar-syrup from the honey?

Pres. Root—Not very liable to after that length of time.

SUPERSEDING QUEENS.

Why should a colony refuse to kill the old queen when she has stopt laying, and a young queen has emerged, the colony finally swarming with the old queen that was clipt, there being no eggs or uncapt brood, and but little capt brood in the cells?

Mr. Aikin—For my part, I think there is a mistake somewhere; such things do not occur except as a freak, in all my experience.

Mr. Green—They occur pretty frequently.

Dr. Mason—You must be in a freak country; localities differ.

Will a colony superseding a queen swarm with the old queen after the young one is hatcht and in the hive?

Mr. Aikin—It is possible that the presence of two queens in the hive, the old and the young, might cause a disturbance; but where the colony would come out I should most certainly expect them to come with the young queen rather than with the old one.

REARING QUEENS.

How often would you put queen-cells in the same hive?

Mr. Aikin—I suppose this is intended for queen-breeders; I can't answer it.

Mr. Hutchinson—I put in queen-cells as often as I take out a queen.

Mr. Holdren—That isn't the idea; I want to know, when you are rearing queens, how often you would put cells in the same hive to rear queens for sale?

Mr. Aikin—Isn't your thought this: How many cells would you cause one colony to rear?

Mr. Holdren—Yes, sir; without giving them a rest.

Mr. Hutchinson—Perhaps two or three—somewhere in that neighborhood. They will rear one batch of cells in ten days.

NUMBER OF COMB-SPACES WITH BEES FOR WINTER.

Taking the Langstroth frame for a standard, how many spaces between combs should be occupied by the bees for good wintering on examination Oct. 15th?

Mr. Aikin—I don't know the number of spaces; that will depend upon the temperature, largely, and it varies so much the first of October that probably six or eight spaces would be right.

Mr. Benton—Five in sharp weather.

Mr. Abbott—I believe that would be pretty close.

Dr. Mason—Six makes a good, solid colony.

FORMING LATE NUCLEI.

How late can a nucleus be formed in northern Illinois, using a virgin queen, and build up strong enough to last until spring?

Mr. Aikin—That is out of my territory. I should say it depended largely upon the weather and the honey-flow—principally those two things—and the man who is handling them.

Continued next week.)

Contributed Articles.

No. 2. Extracted Honey Production.

Size of Hives—Plenty of Stores and How They Become Effective—Larger Hives Needed Than in Comb Honey Production, Etc.

BY R. C. AIKIN.

Some months ago I was writing a series of articles for this journal. I concluded the series so far as comb honey production was concerned, and in the issue of June 21, 1900, page 387, I gave the first article on extracted honey production. Just about that time I found myself so occupied with other work I could not continue the articles, hence this lapse or break in the series. In order to get the connection and refresh our memories, I shall have to sum up or repeat a little of the ideas in the former articles.

In the comb-honey articles I taught the great importance of having very strong colonies while section honey was being stored. When entering on the description of extracted honey production, I still advocated strong colonies. I also pointed out that comb honey stock would pack brood-combs very closely with honey, but when extracted was produced, especially with abundance of store-comb, the brood-combs were left very lank or thin. I urged that the apiarist note this difference in the amount of stores found in the brood-chambers, that run for extracted, having brood-combs so very scantily stored as to cause death of colonies from starvation when comb-honey colonies in like hives had stores in plenty.

There is also another cause for starvation of extracted stock, the very fact that the latter stores the honey in the extra, leaving plenty of brood-room, leads to the development of much more brood. The two colonies may not seem very different in strength during the flow, but since the comb-honey colony has its combs with much honey and little brood, while the extracted honey colony has just the reverse, this causes the latter to have a great force of bees *after* the flow is over. This host of bees produces quite a different condition of affairs from the other.

The great amount of brood and bees with the extracted-honey stock *after* the flow, may, under certain conditions, be a benefit. Should there be a later flow that these bees can forage upon, they may prove to be just what we want; but if there is a dearth of nectar, and they are in enforced idleness, they may be of little use. If we know perfectly our field we will know just what to do, but it is not always possible to know. However, most apiarists know fairly well whether they are to have any nectar yielding late to employ the bees, and if there is none then it follows that there should be provision made for the conditions. I am using for extracting, 9-frame American hives. This frame being about 12 inches deep, it would be inclined to catch more honey than a shallower frame, yet I find these hives run for extracted honey to contain less honey at the end of the flow than do Langstroth frame hives of the same capacity when run for comb.

I have no late flow, hence the condition on the hive as to stores at the close of the summer flow is the condition practically for winter. As it takes 30 to 40 pounds of honey to carry a colony thru in this field, I am compelled to do more spring feeding of the extracted-honey stock, or else use a larger hive for them. I have before given my experience in this matter, but it will do no harm to state it again. For several years I lost heavily of my extracted-honey stock from starvation and general poor condition in spring, caused by shortage of stores. Since then I have given larger brood-chambers, and, when so, this stock winters and springs as well as comb-honey stock, if not better.

Note that the comb-honey stock well provision the brood-chambers, this very fact reducing the amount of bees going into winter. We might reason as many have done in the past, that we do not want a big force of bees to go into winter, that it takes so much to feed them. That argument is very good if the bees are cellared, but for outdoor wintering I believe the big colony the better. It does consume more honey, but then they winter more safely. I have wintered a great many colonies in two-story American hives

right along with one-story ones, and the two-story hives have rousing big colonies when the June flow comes, plenty of honey and far more bees than the one-story ones. The big two-story colonies will be storing surplus when the others are barely ready to enter supers. This testimony will give comfort to the Dadants, and I am sure that for outdoor wintering they are right, that the big hive is the better. I believe the net results to be better from such.

In producing comb honey it is true that a very large brood-chamber colony may get to swarming before they do section-work, but this does not apply so much to extracted-honey stock where a set or two of combs above, ready to store in, attracts the bees to them.

Conditions (that is "locality," sometimes) make a great difference. I call the reader to note carefully what I am just now to put before you, for these matters must be understood or you will say the doctors do not agree.

I have been for several years in a field in which the few weeks *just preceding* the June flow, were weeks of an ABSOLUTE dearth of nectar. Now, reader, suppose you were here with your bees under such conditions. Suppose they were in 8-frame hives, and the last half of May and first half of June there was practically *nothing* for them in the fields, and the stores at home very low. Do you think you would have any swarming? Or even a proper amount of breeding? You would not need to bother your head about how to keep down swarming—I will guarantee no swarming-fever under such conditions.

Now, suppose your bees, instead of being in 8-frame hives, single story, were in two-story or 16-frame ones, stores to be in proportion. I can tell you that such two-story hives well-provisioned, weather warm, and other conditions favorable, you would have *some* swarming before the flow, and much more after it began. You could, by a careful and judicious management, handle your one-story hives so as to have good colonies, but it would have to be done by close watch, and never at any time allow the colony to get out of stores, and while they would have very little ahead make them *handle what little they do have*. One principal factor in inducing free laying by the queen, is to have *workers with full sacs* much of the time.

Thus it is *possible* to have bees carried thru the spring in a dearth of nectar, bringing them up to a honey-flow in good condition and no swarming-fever. Such colonies will go into the sections and work for some time without swarming, many going thru a flow and not swarm if care is used to give and keep plenty of room in supers. But, should there be a little nectar from the fields for two or three weeks *just before* the flow, and at no time a scarcity of old stores, some would no doubt be ready to swarm at or about the beginning of the flow, if not sooner.

Your two-story hives having a great abundance of two things (yes, three)—stores, empty comb and house-room—will breed just about as rapidly under the complete-let-alone plan as will the other with the coaxing and encouragement. The large hive is the easiest to winter and spring, for two reasons: 1st, because they go into winter with a host of bees, and can endure the cold, and so have more bees in in spring to start and care for brood; and 2d, because there is a plenty of feed at all times, both winter and spring. As before stated, I find my two-story hives build up faster in the spring, and make great rousing colonies by the time the others are in fair condition. I can not account for it in any other way than the great amount of brood and bees in the fall being a protection against cold: earlier and more rapid spring breeding from some cause; and a courage and ambition because of the much empty comb to occupy, and backt by a rich store of honey.

I wish here to say that there is another probable reason—perhaps I should leave out the "probable." When a colony is wintered in two chambers, that have been under conditions that find the brood and cluster low down or in the bottom hive in late fall and early winter, they work upward in winter and start breeding in the top hive in the spring. This leaves honey below the cluster in lower outer combs, and this they will from day to day carry up and store *above* and *about* the brood. You see, here is a condition that causes the workers to handle honey, have full sacs, also open stores and a well-fed queen and brood. It all conduces to the welfare and prosperity of the colony. It is a condition that is very like a flow of nectar, and is obtained with the least care and labor on the part of the apiarist.

Now I think I hear E. R. Root hurrahing for two-story 8-frame hives, and I think he is not far amiss as to the results to be obtained when they are rightly managed. If you winter bees outdoors, use a larger hive for the cellar. If you produce extracted, use larger hives than for comb honey. If you use 8-frame hives, use two of them for a brood-chamber in very many cases; but you can contract if you choose, when the flow comes on.

Larimer Co., Colo.

Flat-Bottomed Foundation—Securing Drones in the Fall.

BY G. M. DOOLITTLE.

A CORRESPONDENT writes thus: "I have always used foundation having a natural septum or base, but I am thinking of using the flat-bottomed next season. Will you please tell thru the columns of the American Bee Journal whether the bees change the base of such foundation before drawing it out? Or, after drawing it out, will they fill out the corners with wax, or let it remain with a flat base?"

Bees never leave the base of the cells as they come from the foundation-mill making foundation with flat-bottomed cells. This is one reason why there is never a base of yellow wax apparent with flat-bottomed foundation, where such is used in producing comb honey. With foundation having the natural-shaped base, the bees often, in times of an excessive honey-flow, add their own wax right on to the raised part of the foundation, so that this added part can be scraped off with the honey, the foundation washt, and the same be nearly or quite as perfect as when given to the bees. This gave rise to the "fish-bone center" in comb honey, complained of when comb foundation was first used in sections, and the flat-bottomed process of making foundation was invented especially to overcome this "fish-bone," if I am correctly informed.

When bees are given the flat-bottomed foundation, the first thing they do is to go to work to change the base, and in doing this the side-walls are manipulated also, but just how this work is accomplisht I have never been able to tell, after all the close watching I have been enabled to do, for when the work is being done, the bee has its head in the cell, hence the vision of the would-be investigator is cut off, so long as the bee is at work.

While I prefer the flat-bottomed foundation to all other makes for section honey, it has two drawbacks, as I look at it, which are that this manipulation of the base of the cells takes time, so that sections filled with such foundation are not completed quite as quickly as is the case where the natural-shaped base is used; and where the sections are placed on the hive before the honey-flow is fully on, the bees will mischievously work at it far more than they will that with the natural base, often gnawing and tearing it all down, where the honey-flow we expected does not come, so that it is necessary to look after the sections to see that they are all right when the bees are about to enter them to fill with honey, after a period of scarcity, or before putting them on for the next season.

I have had scores and hundreds of sections which were filled with this foundation, and which had been on the hives during a period of scarcity of honey, the foundation of which was eaten or gnawed away so that only a neck of foundation, of from a quarter to a half an inch wide, remained next to the tops of the sections, while the lower half of the foundation was very nearly as it was when first put in. When honey commenced to come in from the fields, and the bees began to work on the foundation, it would twist about so that it would touch the separators, and be fastened there. And at the end of the season, when I expected to take off nice comb honey, the whole thing would be spoiled by the cutting and tearing necessary in taking it from the separators. This is the worst trouble I have with the flat-bottomed, and were it not for this, I would not think of using any other make in the sections. Of course, in good years, this does not apply, but in years like the past has been, when fully ten percent of the sections have the foundation badly gnawed in them, it is quite an item.

For brood-frames, I can not see where the flat-bottomed has any advantage over that having the natural base, while it has the disadvantage of taking the bees longer to manipulate it; consequently I prefer the foundation having the natural base for the brood-frames.

GETTING DRONES FOR FALL QUEEN-REARING.

Another correspondent writes thus: "I wish to rear a few queens nearly every fall, but when I wish to do so, I find that the most or all of the drones have been killed off. Can I coax the queen to lay in drone-comb, if the same is

placed in the middle of the brood-nest of a strong colony during the fall months?"

The above is something which has puzzled many a queen-breeder, and while some say they can secure drone-eggs whenever they desire, the trying to rear drones after August 25th, by myself, in this locality, in an average season, has resulted in an entire failure.

The only sure way that I know of, after trying nearly every experiment given, to have drones during September and October, is to mass what drone-brood (the drones from which are to our liking), can be found at the end of our summer honey-flow, placing the same in a large hive which will accommodate all that we may have, making the colony contained in this hive queenless, so they will keep these drones as long as you wish them, which they will do, provided no queen is allowed to hatch in the hive.

If you do not have a hive as large as you wish, you can make one of any proportions you may desire, by tiering one or more on top of each other. Worker brood must be given every ten days or two weeks, in order to keep up the strength of the colony, else they may be liable to be robbed when an entire scarcity comes in the fall. This hive must also contain a large amount of honey, as a hive having many drones in it grows light as to honey quite rapidly, and, if not properly fed, drones do not fly as freely as they should. As our basswood keeps in bloom until August, the drones which are in the egg form, when the combs are mast, will not wear out because of old age before it will be too late to rear queens, say from the first to the tenth of October. In some cases I have had such drones live over, so as to fly quite plentifully on warm days in March and April, tho they are soon gone after the bees begin to have general flights.

After all other drones are killed off, if we wish to secure the very best results, this hive of drones can be gone over some day when it is cloudy, and the mercury stands at from 55 to 60 degrees (at which temperature the drones are not likely to stampede off the combs), and all of the undersized and inferior drones culled out and killed, after which we can be almost sure that our queens will mate with the desired drones. This hand-picking of drones is quite a tedious job, but pays well where we have the object of the improvement of stock in view.

I have practiced the above plan for the past ten or twelve years, so I am not entirely ignorant in the matter, and am quite sure I have made much advancement as regards the quality of my bees by so doing.

Onondaga Co., N. Y.

No. 10.—Interesting Notes on European Travel.

BY C. P. DADANT.

THE International congress of bee-keepers took place Sept. 10, 11 and 12, 1900, on the Exposition grounds. Each of the delegates was provided, by the secretary, with a pass, for the duration of this congress, so they could go back and forth without having to pay any entrance to the grounds. I was privileged in the matter of passes, or "service cards" as they called them, for I had been appointed delegate from Illinois to the Exposition, and about all the advantage I derived from it was the grant of two service cards, one for myself and one for my daughter, by the management of the American exhibition. The fee for entrance to the grounds was very low. It had originally been put at one franc (20 cents), but the issue of shares of stock had been accompanied by an equal issue of tickets, so that each purchaser of stock had the value of his stock in tickets. In this manner, 65 million tickets had been issued, and as there were only 50 odd million of these used, the holders soon perceived that the price would have to fall. But it fell below reasonable prices. When we arrived in Europe, the tickets were selling on the street at 7 cents, and when we came back to Paris, in August, they were at 6 cents (30 centimes).

Altho this International congress of bee-keepers was very interesting, I think more beneficial results have been achieved in many of our national meetings; but the most interesting feature to me was the opportunity of becoming acquainted with so many foreign apiarists. If I am not mistaken, there were 15 different nations, 24 foreign associations, and 35 French associations, represented. There were bee-keepers present from South America, Spain, Italy, Russia, Bosnia, Austria, Germany, Belgium, Switzerland, England, and other countries. All but two or three of these men understood the French language, and all the discussions were in French; but the handling of different topics was placed in the hands of committees with foreign chairmen appointed to control the discussions of these topics, and it was quite interesting to notice the different accents of these men who occupied the chair in turn, and who, altho very familiar with French, still showed in their speech and enunciation that it was a tongue foreign to them.

Having long known the energetic and amiable secretary of the congress, Mr. Caillas, by reputation, I had paid him a visit a few days previously, at his home, to get personally acquainted with him and also to hand him my credentials, written with a great eulogy, by Pres. Root of our National Association. He received me with the greatest cordiality, and when I offered to pay the membership fee, he stopt me and said that all foreign delegates were admitted as honorary members, free.

So much for French hospitality.

When I arrived at the congress hall, I was stopt at the door by a registering clerk, who askt my name and credentials, before permitting me to enter. I felt rather inclined then to criticise the French love for rules and regulations, which is so conspicuous, not only in France, but thruout Europe. But they took the pains to explain to me that this registering at the door, which seemed to me rather vexatious, was the only method that could be used of compelling members to help sustain the institution by paying their membership fee. Otherwise, they said, a number of people, who can enjoy our meetings, would come and listen and even discuss and vote, and would go home without having subscribed as much as a single cent towards defraying the expenses incurred. I could not help thinking that this was good logic, and that I had heard some of our leading bee-keepers in the United States deplore the fact that there were bee-keepers at each convention who took advantage of the meetings without helping their success in a pecuniary way. If we wish to be hospitable and entertain visiting foreigners without expense to them, we must expect our local men to help us, and a bee-keeper who thinks enough of a congress of this kind to travel a number of miles purposely to attend it, ought to be willing to help defray the costs.

The number of delegates present must have been 150 or more. I have not yet received the report of the secretary, so have none of the proceedings to refer to, and can only speak of what I recall to memory. I was particularly struck by the number of doctors, teachers, and clergymen, whom I met. It seems to me that they must have composed fully a third of the attendance. The peculiar clothing of the French clergy make them so much more conspicuous than our Protestant ministers. But a pleasanter set of men I never met.

Among the subjects touchtin the discussions, I will mention the "Role of the drones in the hive." It seemed to be the opinion of the majority that the destruction of drone-comb and replacing of these by worker-combs, in inferior combs, was desirable, for a motion to recommend this was past, but there was considerable opposition. One member came with a report showing that he had experimented on two hives, the one with many drones, the other with few. I will quote a part of his report:

"In a hive I obtained many drones by placing in it, in the spring, some drone-combs already built and some unbuilt frames with guide, in which, as you all know, the bees would build more drone than worker combs. In another hive I placed combs built of worker-cells, so as to have but few drones. The definitive gain of the hive with many drones, in weight, during the season, was about a pound. On the other hand, I weighed five hives with many drones, and five hives with few drones. The five hives with many drones increast 116 kilograms. The five hives with few drones increast 123 kilograms."

This shows a difference of seven kilograms, or 16½ pounds, in favor of the hives with few or no drones. But this gentleman does not think that this difference is sufficient to condemn the drones, and thinks they are advantageous in keeping the brood warm. He did not stop to note that before these drones could keep the other brood warm, they had to be kept warm themselves while in brood, and that, too, at a time when the bees are not numerous and the weather is cooler than during the honey crop; and that if there had been workers reared instead of drones, they would be just as likely to be able to keep the brood warm if the weather became cold enough to necessitate this.

But one thing I heard asserted by a number, and which I entirely disbelieve, is that the bees change worker-comb to drone-comb when all the drone-comb has been removed. I do not mean to contradict any one, but I believe that the asserted change from worker to drone comb was not the

work of the bees, but a sagging of the cells in combs of foundation caused by heat. I have seen this in a few instances. But in order to convince me that the bees actually tore down worker-comb to rebuild drone-comb in its place, it would be necessary that the test be made with old worker-comb, in which there could be no prospect of sagging.

But I am running away from my task as narrator and falling into arguments.

Another subject discust, which seems to be of great interest the world over, was that of foul-brood, and it appeared to me that, in Europe as well as in America, many so-called cases of foul-brood are only accidental cases of chilled brood. I say this because I was told by a French bee-keeper that he had had foul brood among his bees, but it had disappeared without his having to do anything for it. And two or three bee-keepers got up in the meeting and asserted that foul-brood was not so dangerous a disease as it had been reported to be, and one man ridiculed all the writers who advise such strong measures against it, but the interruptions and laughing of the majority showed him that he had no hope of convincing them. Several leading men, on the other hand, advised fire and boiling water as the only sure remedies for the true foul-brood, which is evidently a scourge the world over.

Another subject, which has perhaps more importance for the European than it has for us, was the creating of apiarian classes in schools and colleges. I say that it has more importance over there, because so great a proportion of the population does not seek information, as our farmers do here, thru the daily papers and agricultural press. But it has importance for us, nevertheless, for it would be useful to have, not only our bee-keepers, but all classes, informed, superficially at least, upon the natural history of the honey-bee, its role in nature, and the need of its cultivation.

I had an occasion of ascertaining the total ignorance of some of our average American citizens on this subject, during our return trip to America, on shipboard. To pass away idle hours, the passengers got up an evening entertainment at which each one was required to say, or sing, something for the entertainment of the others, under penalty of the payment of $1.00 into the sailors' orphans' fund, and they had me down on the program for a talk on bees. I did the best I could, and the few words that I spoke led to more questions than I could have answered in a week, and some of these questions were decidedly foolish.

Mr. Editor, I hope you will excuse me, but it seems I can not avoid tumbling out of my subject. I was quietly taking notes among bee-keepers, at Paris, and here I am, on the ocean, sailing home before time.

This question of teaching bee-culture is fast being solved everywhere. When I visited the old city of my birth —and I may tell you something about this by and by—I entered the doors of the old college in company with the treasurer of the college, who was also entrusted with a school of apiculture in this institution, and on his desk I found a French copy of "The Hive and Honey-Bee." It seems that everywhere they are trying to push the education of the peasants on all agricultural subjects. This is sure to bring results sooner or later.

A Summer of Bee-Keeping in Nevada—Alfalfa.

BY J. T. HAMMERSMARK.

IT was on a dark, dismal evening in June that I stept off a train in the cozy little city of Reno, situated in the mountains a few miles east of the border-line of California. Altho we are in mountains, so to speak, still we are in a valley 10 by 15 miles entirely surrounded by mountains. This and some of the neighboring valleys are very fertile, where water is to be had, but where it is lacking sage-brush and jack rabbits hold the fort. Some few scattering scrub pine trees are to be seen on the mountains. This is all that is left of what used to be a great forest some years ago. The valley is well populated with thrifty and well-to-do ranchers, cattle and sheep men, and bee-keepers. It is about the latter class and their industry that I will give a short sketch.

The bee-keeper's calendar here is just the same as in the Eastern States. We begin our work about the 1st of April and finish up about Oct. 1st, or as soon thereafter as possible. We are not troubled here with the wintering problem, as bees winter well on the summer stands. A great deal of alfalfa is grown here. Two crops of hay are cut each season from this source and the third crop is sold for fall pasture to men who turn their herds and flocks on these fields, which are in a few days grazed to the ground. Our source of honey is alfalfa. It is a very prolific yielder when the conditions are just right. It is something like white clover and basswood in regard to the amount of nectar it secretes; some years it yields more nectar than others, still it is not so subject to short and uncertain crops as the above-mentioned, and many other nectar-yielding plants of the East. One is always sure of a crop altho it may not be more than 40 to 50 pounds per colony some seasons. The average yield for 20 years, I feel safe to say, would not be less than 100 pounds per colony of comb honey. This is judging from past records.

The past season Mr. Hash's crop was 30,000 pounds of comb and extracted honey, being the smallest yield per colony he has had in 20 years, and this was an average of 50 pounds per colony. Some people have askt me since my return to Chicago, if their alfalfa honey is of good flavor. To this query I can say, yes. The alfalfa honey of this region is preferred to that of California by buyers. In my estimation it comes next to pure white clover honey, if I have any preference at all.

An Apiary in Washoe County, Nevada.

But we have our troubles here, even if we get lots of the best honey produced. Think of a ride on the cars from Chicago, for instance, from three to four days, first thru our fertile neighboring States, then over the vast desert of waste land and mountains of the far West. However, this would not be so bad if the railroad company did not charge you a small fortune to get there. Then, our freight charges are something awful. Suppose I order a carload of bee-fixtures from the East to be laid down in Reno, Nev. My goods go no further than Reno, but the company charges me with freight to San Francisco, and back freight again to Reno. Of course, they are the big fish and I am of the little fish, and during the present state of political corruption, and as long as the men who make our

laws can be bought and bribed to do as the big fish dictate, regardless of the rights of the people, the little fish must either submit to their robbery and be swallowed alive, or keep out of their way. There are hopes, however, that such things will some day be modified, for the people will not always be silent. Pardon me for switching off on politics, for I intended to write about bees, but you see it naturally came into the subject of our drawbacks in the West, and as this is my view of the matter, if I should not speak of it for fear of offending some one I would not be doing right.

Then, to be isolated in a new country, away from all one's friends, is another thing you have to contend with if you care for society, but if you could make friends in the East you can do so in the West. The climate of this high altitude is simply fine. Reno is 4479 feet above sea-level. Snow can be seen on the tops of the highest mountains nearly all the year round. Bee-keepers at Reno are now suffering from the fact that the place is overstockt with bees, for there are many fine locations in the West, especially if a man has two or three thousand dollars to buy out a well-started place—a man with $400 or $500 could get a good start, but of course he would have to depend on other in-

J. T. Hammersmark and Son.

come aside from his bees for a few years until his stock increast to from 300 to 500 colonies, at which time he could depend on making a good living, and most likely accumulate a nice little bank account from the product of his bees besides.

There is another thing I have not mentioned: Alfalfa, I am sorry to say, is cut in its best bloom for honey. I noticed that the bees did not, the past season at least, work more than 7 or 8 days on each crop before it was cut. It is of the sweet clover order. It commences to bloom about July 1st, and will bloom for 10 weeks or more if not cut. What a lot of sweet could be produced from 1,000 acres of Alfalfa raised for seed!

Taking it carefully into consideration, it is a question whether to stay where I am or "go west."

I have given a fair view of both sides of the question, so no one will be misled, I hope, thru the reading of this article. Cook Co., Ill.

P. S.—Referring to the picture of the apiary, I may say that one afternoon a traveling photographer came by our place, and those seen in the photograph came out and lookt towards the camera while the man prest the button. Mr. Hash at the time was away; I am sorry he was not at home, for with his presence the picture would have been complete. The sun was just going down over the Sunset mountains, which we stood facing; that's why we are all squinting so admirably.

The young lady with the white waist is Mr. Hash's niece, who helps him at times during the honey season. The lady at the left in the picture is Mrs. Guthrie, who came out to cook for us for a few weeks. Her daughter and son are the ones at the right, and the young man in the picture is—myself. Miss Guthrie has helpt Mr. Hash in the bee-business for the past three seasons. She is a splendid "hand" and can scrape sections like a machine—so fast and clean J. T. H.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Moving Bees on the Cars.

I have been thinking of moving to Colorado. Could I take bees that distance—900 miles? If so, how should I pack them to move on the train? Can I make the change, say the latter part of February? NEBRASKA.

ANSWER.—In moving bees on the cars the two things to fear are the breaking of the combs and the smothering of the bees. There ought to be little danger as to the last in the month of February. See that each colony has for ventilation at the entrance or elsewhere a space covered with wire-cloth equivalent to 10 or 12 inches. If the frames are fixt-distance frames they are all right, but if they are loose-hanging frames, fasten them in place either by driving a nail partially into the end of each top-bar, or by putting in little sticks between the frames. Fasten the hives in the cars so they can not move about, and let the frames run parallel with the rails of the railroad. The excitement of the journey will be a little hard on the bees in February, and will make them eat more than they otherwise would, so they will need a flight sooner than if they had been left in quiet.

Transferring and Dividing Bees.

Suppose we have a colony of hybrid bees in a hive not standard, but full of comb and brood. We can transfer those old combs, but will have to tie or wire them in our new frames. Now, we have eight new hives with comb foundation; and we have coming in the spring—say the first of May—one strong colony of pure Italian bees without a hive, one queen in April, and two more in May and June. We want to increase all we can, and have no weak colonies in the fall. If we had our colony in an improved hive next spring, full of bees, comb, and brood, we would know how to proceed, but if we transfer them we can't expect much increase.

Don't you think it would do to transfer the bees (as they are hybrids) into a new hive, then put the queen that is coming in April into the old hive, then put the colony that we are going to send for, in a hive with full sheets of foundation? Then how are we to get drones to breed from next summer? I do not know whether our old queen is a hybrid, or a daughter of a hybrid.

You might infer from the tone of our letter that we are running this bee-business alone, but we are not wishing to mislead you in the least. We have a good papa who helps us, or rather we help him, but the bees belong to us.

TWO WASHINGTON GIRLS.

ANSWER.—You are mistaken in thinking that transferring will make any great difference in the matter of increase. In the present case it is merely transferring from one set of frames to another, and you can have the brood just as compact after transferring as before, in which case the bees will go right on as if there had been no transferring. If I understand you rightly, your plan contemplates dividing your old colony in April and forming a new colony to which you will give the queen received. It is very doubtful that your colony will be strong enough to divide in April to bear any depletion. The first thing is to have it build up good and strong, and if you take anything from it before that time you will lose by it. You can transfer in fruit-bloom without any loss, but unless the colony is very strong don't divide at that time.

As the colony of Italians you are to get will be without hive, it will no doubt be without brood. So it will be a good plan to have the transferring done before you receive the Italian bees, and then you can give the Italians the larger share of the brood in the old colony. That will make at first a mixt lot of workers in the colony with the Italian queen, but that will be no harm. A week later any queen reared from brood taken from the Italian queen will be of the right stock. Having now the two colonies to draw from, you can form new colonies by taking a frame of brood and bees from each when you want to start a new colony.

By keeping the Italian colony strong, you will be sure to have drones therefrom. When you give brood from the old colony to the Italian, see that you take combs that have some drone-comb in them, but if any drone-comb is in them at the time destroy it by shaving off the heads of the sealed brood and sprinkling fine salt on the unsealed.

Transferring Bees.

1. Which would be the best month or time to transfer bees from common, rough redwood boxes to regular hives?

2. Is it not a rare thing for a few bees (I could not see more than 10 bees), at about 4 p.m., and about half a mile from the seashore, to commence building a comb on the edge of a common cypress hedge, (around an apple orchard four years old), the branch being only about two or three feet from the ground? I could see no other bees but the few workers I mentioned. I was looking at them about ten minutes.

3. I would like to know if it is possible to hive the above bees, and also, how and when to do it. Also, suppose they were hived, would you put the hive on the ground in the same place or not? CALIFORNIA.

ANSWERS.—1. Probably 21 days after casting a swarm. If you prefer it earlier, take the time when the combs are as light as possible and bees working at the same time. In the North this comes at the time of apple-bloom.

2. Decidedly a rare thing for so small a number as 10 bees to be engaged in comb-building anywhere. Are you sure they were not carrying away wax that had been left there by a swarm that had been clustering there? Sometimes it happens that a swarm starts to build comb on a limb, then leaves, and a few stray bees get left.

3. It is doubtful if you could hive 10 bees and get them to stay, and they wouldn't be of any value should you succeed.

The Afterthought.

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Richards, Ohio.

FRENCH ANTI-PROGRESS—BEES AND PLANTS.

I think most of us were interested in reading how, for the French-speaking portion of the world, the anti-progress monster intrencht in the columns of the only French bee-journal was bought and conquered by Messrs. Dadant and Bertrand. We are glad Mr. Bertrand has the beautiful home we read of, looking out upon its beautiful scene. Rather in the nature of news that Mt. Blanc is of three different colors at three different times of the day.

Yes, now editor Bertrand calls our attention to it, it is getting apparent that plants (for their own look-out-for-number-one profit) have *three* ways of securing the attendance of bees—nectar, pollen, and more or less mysterious dainties, very small in bulk, and of which the bee never gets a load to carry home. (This doesn't prove that the bee never carries home *any* of these minute secretions.) Mr. Bertrand's experiment of marking a bee at work on his "bar-room plant," and watching it for five hours consecutively, and noting that the little dupe had nothing to show for its work at the end of the time—that experiment deserves a great deal more attention than it has received hitherto. All of us who pay any scientific attention to forage plants need to be on the lookout. I feel pretty sure that poppies, altho they may furnish some of both pollen and nectar, furnish something else also, and that it is this "something else" that gets the bees so excited. And I wonder a little if the angelica (devil's club) is not another case of the same thing. I had never heard before that the Chapman honey-plant was of this character. It seems Mr. Bertrand had discovered that before the plant had its boom in this country. I fear we shall find that *all plants which never fail* to attract bees are of this bad kidney, and that all plants furnishing large amounts of nectar have occasional times of barrenness when bees ignore them. Don't let any one tell the man who wastes his time hovering around *our* horrible Eryngium giganteum that that model of industry, the bee, does the same thing.

Do we understand that it was an American plant that scored in Mr. Bertrand's garden the record of rapid growth—an inch an hour? Sounds that way. And if any people have been saying that Mr. Dadant writes nice travel letters with the bees left out, they must admit that he has redeemed himself this time. Page 761.

CAGING AND MAILING QUEEN-BEES.

Forty bees in a very big cage, with both cold-weather room and hot-weather rooms—the way Doolittle sends queens to the Boers. If he would only contrive some way to *deprive* them of one queen all the world (save one nation) would crown him "king of men." Sixty-five degrees of temperature for your caged queens, whenever you can boss the thermometer. Most of us would have jumpt conclusions for a much higher temperature, and Mr. Doolittle deserves thanks for a valuable item. Also those of us who have no experience in caging queens during harvest are glad to be assured that the bees can be depended upon to feed them. Page 742.

NECTAR AND CANE-SUGAR.

It seems to me that Editor Cowan, on page 758, makes a little slip where he says that the sweet of nectar is "almost entirely" cane-sugar. Unless my memory is greatly astray, we had, not many years ago, the exact determination of the different kinds of sugars in several samples of nectar made by scientific hands—samples gathered artificially. One or more of the samples showed more than half cane-sugar, but most of them less than half—composition varying greatly according to the species of plant the nectar came from.

ACID TO PREVENT GRANULATION.

I should have used ever so much excess of acid if I had been askt to make bee-feed with vinegar to prevent granulation. If there is another brother as green as I let him make a note. Tablespoonful will do for 10 pounds of sugar, if the vinegar is sharp. Page 771.

INTERNECINE WAR ABOUT PURE FOOD.

Mr. Abbott's speech is quite a refreshing change from the formal tone of the ordinary convention paper. And so there's internecine war between friend and friend among the friends of pure-food legislation. Sad. And all because the butter-folks are set in the resolution to subject imitation butter to additional disabilities, beyond being said under its own name—disabilities more or less inquisitorial. Stated in that way, it sounds as if the Brosius folks are altogether right and the others altogether wrong. But no injustice will be done by *staling* the other side. I suppose the other chaps will say that people are fooled with bogus butter more frequently than in almost any other way—and more to their disgust; that the person who eats butter is oftener than otherwise not the person who buys it; that present methods inform the buyer what he buys, but not the eater what he eats; and that therefore it is right to protect the eater by forbidding the imitation to be colored like the genuine. That sounds reasonable, too—but it murders an honest infant industry (honesty infantile altho the industry is not) seeing that no one will eat *as a relish* a new stuff that looks queer. But the boy that must have absolutely all the candy he calls for, else destroy all the candy designed for the crowd—I fear the most kindly friend of naughty boys would find it hard to say anything mitigatory for him. Page 773—5.

The Chicago Convention Picture is a fine one. It is nearly 8x10 inches in size, mounted on heavy card and 10x12 inches. It is, we believe, the largest group of bee-keepers ever taken in one picture. It is sent, postpaid, for 75 cents; or we can send the American Bee Journal one year and the picture—both for $1.60. It would be a nice picture to frame. We have not counted them, but think there are nearly 200 bee-keepers shown.

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GENERAL ITEMS

Best Honey Season in Years.

The past honey season has been the best we have had for years in western Massachusetts. I secured 75 pounds per colony, and the quality cannot be excelled.

I much regret the almost total failure of the honey crop in many sections of the country, as reported in the Bee Journal, but I trust that we all realize that there are ups and downs in the bee-keeping business as in all other occupations in life, yet if we persevere reward will surely come. JOS. BLAKE.
Hampshire Co., Mass., Dec. 17.

Report for the Past Season.

I have 9 colonies of bees in winter quarters. I wintered only one colony last winter, and secured no increase, but they stored 35 pounds of nice section honey, which I sold for 15 cents per pound. H. J. COOLEY.
Kane Co., Ill., Dec. 19.

Bees Didn't Do Very Well.

My bees didn't do very well this season. They were wintered in a cold, damp cellar, the temperature sometimes going down to 10 degrees below the freezing-point, so they were very weak in the spring.

I secured only 400 sections of comb honey from 10 colonies, spring count, and increast to 15. I use nothing but the tall sections—4x5x3¼—with separators. Honey sells more readily in them, and I can get a better price for it. WILL EHLERT.
Wood Co., Wis., Dec. 20.

Poor Season for Honey.

This has been a poor season for houey in this locality, on acconnt of the dry weather in May and June, but I feel that I can not get along without the American Bee Journal.
LEWIS LLOYD, JR.
Columbia Co., Wis., Dec. 18.

Cotton Honey—Swarming.

I notice on page 797 (1900) a report headed "Cotton as a Honey-Plant," in answer to R. P. Davies' letter on page 718. Mr. Carr says he doesn't think that cotton is anything extra as a honey-plant, but that we have a variety of prairie-flowers which are our main source for surplus honey. He may leave Lamar county out when it comes to prairie-flowers. When cotton fails to yield nectar the bee-keepers of this part of the State wear a long face. I extracted 700 pounds of cotton honey secured from 11 colonies, spring count, and increast to 23. Mr. Davies is mistaken about the bees gathering surplus from the cotton *bloom*. They get the nectar from the middle stem of the leaf, and from the square and bolls they get pollen. They do get some honey from the bloom.

On page 777 is an article headed, "Do Bees Select their Future Home Before Swarming?" In my opinion this question will never be settled, tho I believe I should take the nega-

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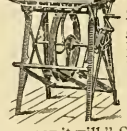

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43Atf Please mention the Bee Journal.

tive side of it; but for the want of space I will not try to give my proof. H. C. Hutchins.

Lamar Co., Tex., Dec. 16.

Late Storing Shorten the Sting.

We have not secured much honey in this locality since 1896. My bees stored a few hundred pounds late this fall—so late that they did not like to go up into the supers with it, so filled everything below, and crowded out the queen so that she could not lay, and so I am afraid that some of the colonies will be short of bees in the spring. I have 127 frames of nice honey, and every hive is full.

We are expecting a good honey crop next year, for the land is a green mat of white clover.

I wish those who are interested in lengthening the tongues of bees could be persuaded to try to shorten the "other end" a little bit!

Green Co., Ind., Dec. 15. Geo. Sage.

Bees Did Well.

My bees did well the past season. I increast from 11 colonies to 23, and got 1600 pounds of fine comb honey. W. P. Branson.

Decatur Co., Kans., Dec. 22.

Pat Renews His Ba Jurnal.

Shure its a great wheedler, ye's are, Mr. Idi-tor. Here ye's put Dec. and two 00's forninst me name on the rapper av me Jurnal, an at the tap av yer furst page av that same Jurnal ye's do be saying fur insthince, "Yer toime is up;" an thin below that ye's do be sayin, "The Great Cook Book" wid the Jurnal fur a year, an only $1.50; "wull *you* have one?" Be crabs, I wull, an here's the ducats inside. Oim jist dyin entirely fur to see phwat koind of cookin's in it. Sind thim along, the

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The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO., 118 Mich. St., Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

To Exchange Bates & Edsmonds 1½ and 3 h.p. gasoline engines. Wanted foot-power saws, lathes and machinery of all kinds. ROBERT B. GEDYE, La Salle, Ill.
1A2t Mention the American Bee Journal.

Machinery FOR SALE.—Tenon machine, doving machine, two-spindle shaper, saw-table, guages and saws, shafting, pulleys and belting. FRED DALTON, Walker, Mo.
52A4t Please mention the Bee Journal.

The Ohio Farmer
—AND THE—
American Bee Journal,

Both One Year for only $1.40.

THE OHIO FARMER is clearly one of the leaders of the agricultural papers of this country. It is a 20-page weekly, often 24 pages, handsomely printed on good paper, and CLEAN in both reading and advertising columns. It has the largest actual staff of editors and correspondents (all farmers) of any farm paper publisht, and is practically progressive in defending the farmer's interests.

IT WILL HELP YOU MAKE "THE FARM PAY." Send to OHIO FARMER, Cleveland, Ohio, for a free sample copy.

REMEMBER, we send both the Ohio Farmer and the American Bee Journal, both one year for only $1.40. Address,

GEORGE W. YORK & CO., 118 MICHIGAN STREET, CHICAGO, ILL.

26 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 26 cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

two of thim, and Oi'll try to git me old woman ter be radin the "Cook-Book"—she won't rade the Jurnal, an says Oim an Old Sager, bee-joote, an she wnshes she'd got marrid to some foine young feller, wid since enuff ter go ter bed at noight, and not be spindin toime an mnnny wid ould books an papers full av bees, an no hunny in the house, nor wood in the shanty.

Oim hopin luck may sthrike her wid ther Cook-Book upon Christmas mornin.

CYRENE E. MORRIS.

Carroll Co., Iowa, Dec. 14.

A Slim Honey Crop.

The honey crop was very slim here the past season. The weather is fine now, and the bees have been flying for the last 3 or 4 days, and carrying out lots of dead bees. I am afraid there will be a great many of them next spring.

The old American Bee Journal is the pillar of truth. Long may it and its editor stand without fear. D. D. DANIHER.

Dane Co., Wis., Dec. 21.

Poorest Season in 10 Years.

The past season has been the poorest for honey we have had in 10 years. The bees did not make their expenses—some had enough for winter—some had a little—and others nothing. I fed over 600 pounds of sugar syrup in order that they might have the required amount of stores. Clover looks fine now, and the prospects for next season are very good.

Holmes Co., O., Dec. 17. AMOS MILLER.

Good Season for Honey.

The past season was a good one for honey in this locality. The spring was very mild, and gave the bees an opportunity to gather all the honey from the fruit-blossoms. White clover was never so plentiful as the past summer, altho the weather was not as good as it might have been. Alsike and sweet clover yielded plenty of honey. The bees gathered honey from wild aster and sweet clover during October, gathered pollen from dandelions until Oct. 3, and had a good flight on Oct. 20.

I wish you a happy New Year, and success to the American Bee Journal.

CHARLES DUCLOS.

Saginaw Co., Mich., Dec. 20.

Honey Crop Slim the Past Season.

The honey crop of 1900 was rather slim in this county. Clover and basswood failed entirely, so that with the exception of some honey-dew that was gathered in May and June, we had a dearth of honey from apple-bloom until buckwheat bloom. Buckwheat yielded fairly well, and I secured enough to

200-Egg Incubator for $12.00

Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.

GEO. H. STAHL, Quincy, Ill.

46A25t Please mention the Bee Journal.

GREIDER'S POULTRY

always do well. 50 standard varieties. Handsomest poultry book of the season for 6c stamps. Full of money-making hints. My birds are winners.

B. H. GREIDER, Florin, Pa.

Please mention Bee Journal when writing.

supply our own table, besides selling $20.00 worth, thus keeping our "toad-hide" replenisht to the extent of another year's subscription to the American Bee Journal. As long as the editor keeps the "Old Reliable" up to its present standard, we subscribers won't kick. I wish him a large crop of new subscribers, and a merry Christmas.

M. P. LOWRY.

Armstrong Co., Pa., Dec. 14.

[Thank you, Mr. Lowry, for your good wishes—yes, and the same to so many other good friends who have sent us numberless kind words of encouragement.—EDITOR.]

Good Instruments.

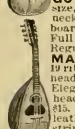
Don't confuse these instruments with cheap "bargain counter" offers. They are high grade, fully guaranteed. instruments FOR MUSICIANS.

VIOLIN—Amati model, choice of 3 colors, dark brown, light red or amber, full ebony trimmed, brazil wood bow, pearl slide, full leather bound canvas case, extra set of strings, rosin, etc., worth $20. **My Price $6.25**

GUITAR—Solid Rosewood, standard size, neatly inlaid, Spanish cedar neck, celluloid front, ebony finger board, best quality patent head Full leather bound canvas case. Regular price $18. **My Price $7.65**

MANDOLIN—Solid Rosewood, 19 ribs; celluloid front; veneered head piece, handsomely inlaid. Elegant French Polish. Patent head, engraved tail-piece. Worth $15. **My Price, Only $7,** with leather bound case, extra set of strings and tortoise pick. Send for circulars of high grade musical instruments of all kinds.

$7.65.



Charles M. Ball me Auditorium, CHICAGO.

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in Pullman's finest Compartment Drawing Room, Library, Observation and Dining Cars—all Vestibuled—with the celebrated

OPEN-TOP CAR "CHILILITLI"

for Observation in the Mountains and Canons, and Dining Car in the Tropics.

A delightful trip of 38 days with **Three Circle Tours in the Tropics** of the South of Mexico and a **Visit to the Ruined Cities.**

All exclusive features of these itineraries of leisurely travel and long stops—The Special Train starts Tuesday, Jan. 22, from Chicago.

TOUR OF PUERTO RICO.

SPECIAL PULLMAN CARS leave Chicago **Thursday, Jan. 17,** and **Thursday, Feb. 14,** at 9:30 a.m., connecting with the splendid new steamships Ponce and San Juan, sailing from New York the second day following. Individual tickets sold for other sailing dates, alternate Saturdays.

TICKETS INCLUDE ALL EXPENSES EVERYWHERE

These select limited parties will be under the special escort and management of THE AMERICAN TOURIST ASSOCIATION, Reau Campbell, General Manager, 1423 Marquette Building, Chicago.

Itineraries, Maps and Tickets can be had on application to Agents of the Chicago, Milwaukee & St. Paul R'y.

CONVENTION NOTICES.

New York,—The annual meeting of the New York State Association of Bee-Keepers' Societies will be held in the Kirkwood, at Geneva, N. Y., Wednesday, Jan. 9, 1901, at 10 a.m., and continue thru the afternoon and evening. An interesting program has been arranged, and a good time is expected. C. B. HOWARD, Sec. Romulus, N. Y.

A Remarkable Offer.—Mr. F. B. Mills, the well-known seedsman of Rose Hill, N. Y., gives us in this issue the first insertion of his advertising for the coming season, presenting an entirely new and original feature. Hundreds of our readers have in the past availed themselves of Mr. Mills' "Seed Due-Bill" offer, which he again renews, including with it an offer of two free passes to the Pan American Exposition to be held next summer at Buffalo, N. Y. This is surely worth investigating, and a postal card to Mr. Mills will bring full particulars. Please mention the American Bee Journal when writing.

The Emerson Binder.

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL

Langstroth on... The Honey-Bee

Revised by Dadant—1899 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us **THREE NEW** subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

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BEE-SUPPLIES.

—— Muth's Square Glass Honey-Jars. ——
Send for Catalog.

HONEY AND BEESWAX WANTED.
C. H. W. WEBER,
42Atf 2146 Central Ave., Cincinnati, Ohio
Please mention Bee Journal when writing.

GINSENG $10. in plants produce $4,000.10 in 10 years. Book telling how to grow it, 4c Lakeside Ginseng Gardens, Amber, N.Y

52A13t Mention the American Bee Journal.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Dec. 21.—The demand has fallen off very much of late, but prices have not declined to any great degree from those prevailing for the past 60 days, but any pressure to sell would cause a decline. Fancy white comb, 16c; No 1, 15c; amber and travel-stained white, 13@14c; dark and buckwheat, 10@11c. Extracted, white, 7½@8c; amber, 7@7½c; buckwheat and other dark grades, 6@6½c. Beeswax, 28c.
R. A. BURNETT & Co.

KANSAS CITY, Dec. 21.—Honey market firm, demand steady. Fancy white comb, 24-section case, $3.50 to $3.75; 12-section case, $1.90 to $2.00; amber, case, $3.00 to $3.25. Extracted, white, 8@9c; supply fair; receipts and demand good. Beeswax, 22@30c. Demand fair.
W. R. CROMWELL PRODUCE Co.,
Successors to C. C. Clemons & Co.

BUFFALO, Dec. 20.—Honey continues to drag at quotations. Holiday business kills every thing, almost, but presents. Fancy 1-pound comb, 15@16c; common, 10@14c, as to grade. No extracted wanted. BATTERSON & Co.

ALBANY, N. Y., Dec. 22.—Honey market quiet with light stock and light demand, especially for extracted, in which there is very little movement at present. While we do not change quotations, they are nominal at present. We look for better demand at beginning of new year.
Fancy white, 17@18c; No.1, 16@17c; No. 2, 14@15c; mixt, 13@14c; buckwheat, 12½@13½c. Extracted, white, 8@8½c; mixt, 7@7½c.
H. R. WRIGHT.

BOSTON, Dec. 22.—Fancy No. 1 white in cartons, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. Absolutely no call for dark honey this year. Extracted, white, 7½@8c; light amber, 7@7½c. Beeswax, 27c.
BLAKE, SCOTT & LEE.

CINCINNATI, Dec. 26.—The market for comb honey here is becoming a little bare, altho higher prices are not obtainable. Fancy white comb sells for 16c; lower grades do not want to sell at all. Extracted is selling slow; amber for 5½ and higher; fancy white clover brings 8@8½c. Beeswax, 28c. C. H. W. WEBER.

NEW YORK, Dec. 22.—Fancy white, 15@16c; No. 1 white, 14c; No. 2 white 12@13c; amber, 12c; buckwheat, 10@11c. Extracted in fairly good demand at 7½@8c for white, and 7c for amber; off grades and Southern in barrels at from 65@75c per gallon, according to quality. Not much demand for extracted buckwheat as yet. Some little selling at 5½@6c. Beeswax firm at 28 cents.
Demand continues good for comb honey; supply fairly good. Extracted in fair demand with enough supply to meet requirements.
HILDRETH & SEGELKEN.

DETROIT, Dec. 22—Fancy white comb, 15@16c; No. 1, 13@14c; dark and amber, 10@12c. Extracted, white, 7½@8c; amber and dark, 6@7c. Beeswax, 26@28c. M. H. HUNT & SON.

SAN FRANCISCO, Dec. 19.—White comb, 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber 6¼@7¼c; amber, 5½@6½c. Beeswax, 26@28c.
Stocks of all descriptions are light, and values are being as a rule well maintained at the quoted range. Firmness is naturally most pronounced on light amber and water white honey, the latter being in very scanty supply.

A HONEY MARKET.—Don't think that your crop is too large or too small to interest us. We have bought and sold five carloads already this season, and want more. We pay spot cash. Address, giving quality, quantity and price.
THOS. C. STANLEY & SON, Fairfield, Ill.
Please mention Bee Journal when writing.

——DO YOU WANT A——
High Grade of Italian Queens
OR A CHOICE STRAWBERRY?
Send for descriptive price-list.
D. J. BLOCHER, Pearl City, Ill.
47A26t Mention the American Bee Journal.

BEES QUEENS
Smokers, Sections,
Comb Foundation
And all Apiarian Supplies cheap. Send for
FREE Catalogue. E. T. FLANAGAN, Belleville, Ills

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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PATENT WIRED COMB FOUNDATION
Has no Sag in Brood-Frames.

Thin Flat-Bottom Foundation
Has no Fishbone in the Surplus Honey.
Being the cleanest is usually worked the quickest of any foundation made.

J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N. Y.

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SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	60c	$1.00	$2.25	$4.00
Sweet Clover (yellow)	$1.50	2.80	6.25	12.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	90c	1.70	3.75	7.00
White Clover	90c	1.70	3.75	6.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.
Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

☞ IF YOU WANT THE

BEE-BOOK

That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his

Bee-Keepers' Guide.

Liberal Discounts to the Trade.

FALL SPECIALTIES

Shipping-Cases, Root's No-Drip; Five-Gallon Cans for extracted honey. Danz. Cartons for comb honey. Cash or trade for beeswax. Send for catalog. M. H. HUNT & SON, Bell Branch, Mich.

Please mention Bee Journal when writing

LOW RATES TO THE SOUTH.

Excursion tickets at reduced rates are now being sold by the Chicago, Milwaukee & St. Paul Railway to the prominent resorts in the South, including Jacksonville, Fla., Mobile, Ala., New Orleans, La., Savannah, Ga., El Paso, Tex., which are good for return passage at any time prior to June 1, 1901. Information regarding rates, routes, time, etc., can be obtained on application to any coupon ticket agent of the Chicago, Milwaukee and St. Paul Railway.

24th Year Dadant's Foundation. 24th Year

We guarantee satisfaction. ✻✻

What more can anybody do? BEAUTY PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED-PROCESS SHEETING.

Why does it sell so well? ✻✻

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

LANGSTROTH on the HONEY-BEE—Revised
The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted ✻ ✻ ✻
AT ALL TIMES.

CHAS. DADANT & SON,
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MADE TO ORDER.

Bingham Brass Smokers,

made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.

No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.
Prices: Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

BINGHAM SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address, **T. F. BINGHAM, FARWELL, MICH.**

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Sections==A Bargain.

We have 50,000 3⅝x5x1½ inch plain sections, and as our call for them is light, we will sacrifice them. Prices very low. Write.

Apiaries—Glen Cove, L.I. **I. J. STRINGHAM, 105 Park Place, New York, N. Y.**

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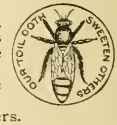
Four Celluloid Queen-Buttons Free

AS A PREMIUM

For sending us ONE NEW SUBSCRIBER to the American Bee Journal for three months with **30 cents**, we will mail you **FOUR** of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge.



This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one (of the buttons) as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey: at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., JANUARY 10, 1901.

FORTY-FIRST YEAR
No. 2.

WEEKLY

Mr. C. P. Dadant and Daughter Among the Swiss Bee-Keepers.

THE AMERICAN BEE JOURNAL

PUBLISHT WEEKLY BY

GEORGE W. YORK & CO.

118 Michigan St., Chicago, Ill.

*Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

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Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Bee-Keeper's Guide

Or, Manual of the Apiary,

—BY—

PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book publisht to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipt, or his library complete, without THE BEE-KEEPERS' GUIDE.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

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Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let every body try for it. Will YOU have one?

GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL.

YELLOW OR WHITE

Sweet Clover Seed

Free as a Premium

For Sending us One New Subscriber for a Year.

There has been so much written about both the white and the yellow variety of sweet clover, that we will simply say here that if one of our present regular subscribers will send us $1 with a new name for next year (1901), we will send the new subscriber the balance of this year's (1900) numbers free, and mail, postpaid, to the one sending the new name and the dollar, either **one pound** of yellow sweet clover seed, or **two** pounds of the white sweet clover. This is a good chance to get a start of both kinds of these honey clovers. Better send two new subscribers (with $2.00) and get the three pounds of seed. Address,

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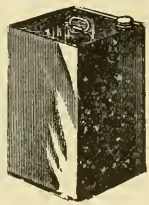
Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

ALFALFA HONEY.....

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough the Alfalfa extracted.



BASSWOOD HONEY.....

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms in Wisconsin. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Either Alfalfa or Basswood Honey:

A sample of either, by mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. The cans are boxt. This is all

ABSOLUTELY PURE BEES' HONEY,

The finest of their kinds produced in this country.

Read Dr. Miller's Testimony on Alfalfa Honey:

I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more markt flavor, according to my taste. C. C. MILLER.
McHenry Co., Ill.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

Address,

GEORGE W. YORK & CO., 118 Michigan St., Chicago, Ill.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., JANUARY 10, 1901. No. 2.

Editorial Comments.

A Big Fire—Our Office and Stock Flooded.

On New Year's day the office and floor occupied by the American Bee Journal, bee-supply and honey business, was made almost a complete wreck by floods of water coming down from the upper floors where a big fire broke out about two o'clock in the afternoon. There were something like 20 fire-engines throwing water thru and on the top of the building in an endeavor to put out the fire, and of course practically all of that water came down thru our floor.

Fortunately the issue of the Bee Journal for mailing on Wednesday, Jan. 2d, was still in the office of the printer, and thus was saved, as were also the forms from which it was printed. Thru the kindness of one of our former partners we were able to mail the Bee Journal in his office, thus preventing any delay in getting that number off.

We are writing this Thursday evening, Jan. 3d, and are not sure but that this number of the Bee Journal may be delayed. If it is, it will likely be the first time in 20 years, on the publishers' account, that it has failed to be placed in the Chicago post-office on time. Also, it may be that we will be unable to get out more than 8 pages instead of the 16. If so, we feel very certain that bee-keepers will not complain, knowing that in case of a fire no firm can do exactly as they would under other circumstances.

We do not know just yet what our loss will be on printing-office, bee-supplies, and honey, but feel very sure that it will be sufficiently large. Of course, we had everything fairly well insured, but as all know who have had experience with insurance companies, it will be understood that there is no likelihood of getting the full amount of the loss. This misfortune comes at a time when it is not easily borne by the publishers of the American Bee Journal, so that we would like to suggest that all who are owing on their subscriptions please send it, and also a renewal for 1901. While the loss on account of the fire will be a good deal, it of course will not interfere with the continuation of the Bee Journal. However, everything sent in on arrearages, renewals, and new subscriptions, will be gratefully received at this time.

The fire in our building was one of the fiercest that the fire companies of Chicago have had to fight in a long time, and the weather being extremely cold on New Year's day, it was really very remarkable that the building and contents were not totally consumed. The daily papers spoke in high commendation of the excellent work done by the Chicago fire department. To prevent the total destruction of a 7-story building, 100 feet square, when a great fire is raging at its top, is certainly a wonder. The Chicago fire department did it, and deserve great praise for their bravery and success.

If any of our readers or customers do not receive prompt response to their letters or orders they will now understand the reason for the delay. Just as soon as the insurance companies have adjusted the losses, we expect to get things in shape so as to be running again as usual. This may take a week or two for the bee-supplies and honey business, but we expect to be able to have our printing-office in running shape again by the end of this week.

The total loss occasioned by fire and water, on building and contents, will likely be anywhere from $50,000 to $100,000. There were perhaps ten firms in the building, and all suffered more or less loss.

GEORGE W. YORK & CO.

Bulk or Chunk Honey—that is, comb honey filled in tin cans, and the empty space filled up with extracted honey—has been highly recommended by some bee-keepers, especially in the southwest, but according to E. T. Flanagan, in the Bee-Keepers' Review, it is not wise to put up honey in that form. He seems to think it will be better to keep the two kinds separate, either kind alone bringing more than the two mixt. With such diametrically opposite views it is hard to tell just what to believe, unless it be that local preferences may have a bearing. As a bit of experience in the matter, Mr. Flanagan says :

Some years ago, having sold all my own crop of comb honey, I went to St. Louis to get a supply. At one of the largest commission houses in the city, where I frequently dealt, I inquired if they had any comb honey on hand. "Yes, a very fine article; come and take a look at it." I did, and found over 100 cases containing 120 pounds to the case. I supposed the one showing me the honey had made a mistake, for I thought the cases contained extracted honey, but I found the 120-pound cases filled with as fine comb honey as I ever saw, but in 60-pound cans. I askt the price, and was more than surprised to find it only 6 cents a pound, when I had come prepared to pay from 12½ to 14 cents for good section honey. I askt them to remove a portion that I might examine it more closely, but it was impossible to do so without breaking and tearing it all to pieces. Of course, I did not buy a pound of that honey, for I could not use it. I could not sell it to my customers for as much as clear extracted honey. Now, that was A No. 1 comb honey originally, and it would have brought 15 cents per pound at wholesale readily had it been in sections. I was there to give that much for as much of it as I needed, but I would not give the *five* cents per pound that they subsequently offered it to me for, and I believe they sold it later for 4½ cents per pound. How much the poor fellow netted on that fine lot of "chunk" honey I leave you to figure out; I only know I was sorry for him, and glad I was not in his place.

Building Up Weak Colonies for the honey-flow is not advisable in many cases. If it be done at the expense of colonies only fairly strong in a region where the honey-flow closes rather early in the season, it will be at a loss, and a reversal of the practice would be advisable, that is, drawing from the weak to help the strong. But where the season is sufficiently long—possibly in any case where colo-

nies become *very* strong—it is possible that the very strong may be made to help the weak so that the total harvest may be increast. With regard to weak colonies, Wm. McEvoy has struck a new thought, which he gives in the Canadian Bee Journal. He says that larvæ in weak colonies are not fed as well as they should be—a thing not so hard to believe by those who are familiar with the fact that larvæ are not always fed alike. So he has thought out a plan by which he kills two birds with one stone—he secures the feeding of a part of the larvæ in strong colonies that left to themselves would have been fed in the weaklings, and at the same time gets the weak ones strengthened. Here is his plan :

Just as soon as the strongest colonies are in shape to put the extracting-combs on, I lift up a comb full of brood that is about ready to be capt, and place it above the queen-excluder, and leave it there for nine days. I do this with every strong colony.

During the nine days the bees in these strong colonies will feed the larvæ extra well, and all that was in the egg form when I placed the combs above the queen-excluder will be capt brood at the close.

At the end of nine days I take all the combs out of the brood-chambers of the weak colonies and fill up every brood-chamber with capt brood from these top stories, and in a few days after this is done the capt brood will be hatcht out, and these weak colonies will be full of bees. The combs that I take out of the brood-chambers of the weak colonies I put in the top stories where I took the capt brood out of, and let them have that in place of the brood I took from them. The bees in the strong colonies feed the larvæ given them from the weak colonies well as before.

Locating and Starting an Apiary.—Mr. G. M. Doolittle works up some very interesting and profitable apiarian conversations with himself in each number of Gleanings in Bee-Culture. In the issue of Dec. 1st, it happens to be about locating and starting an apiary. His responses to questions may be summed up something like this :

Unless a prospective bee-keeper has some knowledge of the business, 25 colonies would be too many to start with. He recommends reading one or two of the standard bee-books, and the taking of one or more of the best bee-papers. So much for necessary literature on the subject.

As to placing hives, Mr. Doolittle would have them level from side to side, and slanting just a little toward the front, providing the frames run the usual way of the hive—from front to rear. If the frames run from side to side, then the hive should stand level both ways.

Mr. Doolittle recommends placing the hives three inches from the ground—to prevent the bottom-board from warping, and also to give the bees a better chance to get in on cool, windy days in early spring, thus preventing loss of bees at a time when one is of more value than a hundred after the honey harvest.

On the nearness hives should be together, Mr. Doolittle says his apiary is laid out on the hexagonal plan, the hives being ten feet apart in the rows from center to center, and the rows ten feet apart. This is how he would proceed to arrange the hives as suggested, supposing the apiary finally to contain 100 colonies :

"To get the hives arranged in the hexagonal form, get a line 100 feet long, having a pointed stake tied on each end. Five feet from the stake at one end tie to the line a white thread or string, four or five inches long. Five feet from this white thread, tie a red thread or string, and then a white one five feet from the red, and so on until you have red and white threads alternating at five feet from each other the whole length of the line.

"The line is to be stretcht where you wish the first row of ten hives to stand, then you are to stick a little stake at every white thread. Now move the line ahead ten feet, when you will stick the little stakes at the red threads. Then move ahead ten feet again, sticking the stakes at the white threads, and so on until you have stuck the 100 stakes for the stands for your 100 hives or colonies you expect to have in time. Having your stakes all stuck, level off the ground about each stake until you have a nice broad level place ready to set a hive on at a moment's notice at any time. Having it completed, and each stand occupied with a hive of bees, if you are like me you will consider that for convenience and beautiful appearance this plan is superior to any other."

On the facing of the hives, he prefers to have them toward the south, tho some of the best bee-keepers in New York State advise southeast, for then the morning sun will cause the bees to gather earlier in the day. He comes out very strong against facing hives to the north in a cold latitude.

Contributed Articles.

Next—A Machine For Uncapping Honey.

BY "OLD GRIMES."

THERE seems to be some stir in the busy world of bee-keepers, and the ingenious fellows are determined to place obstacles in the path that has been beaten by us old fellows. We must needs use them, stumble over them, or make new paths around them.

Just now the uncapping-machine is racking the brains of these geniuses and Old Grimes wants to have his say about the matter. Off and on for a number of years I have wielded the Bingham knife, and quite successfully, too, and I expect still to wield it for an indefinite period, but if we are to have a new-fangled way of uncapping, the Grimes family wants a practical, up-to-date machine.

The first idea that enters the brain of the uncapper inventor is to shave off both sides of the comb at once ; but looking at such a machine from a practical point of view, how much time will be gained ? For a slicing machine to work nicely the combs should be quite uniform in thickness and with a smooth surface, but the average bees will make more or less hills and hollows upon the combs, and these defects are more or less according as the season is a good or poor one, or as the honey-flow is slow or rapid. With many combs the machine would have to be set to take off all down to within a quarter of an inch of the septum, and that would never do, for it would be taking away too much of our good combs, and the tank would have to be placed under the uncapping-box instead of under the extractor.

If we try hard to get really nice combs for the machine, they are equally nice for rapid work with the knife. To get nice, fat combs for extracting, the Grimeses use 8 combs in a 10-frame super. It does not take an expert long to uncap nice combs ; then we save much uncapping by extracting when the comb is one-half or two-thirds capt—two strokes to a side usually finishes it. From actual timing a comb can be uncapt in from five to fifteen seconds, or an average of five combs per minute.

We must take into consideration the time for adjusting the machine, and the time to change the knives for a water-bath, for no form of knife will run long without getting that gummy edge ; then there is bee-bread to clog the machine, and more or less brood in the way. Perforated metal would prevent the latter.

But let us figure a little. A machine would necessarily cost from $15 to $20. There are but few of our extensive bee-keepers who use perforated metal. In order to use the $20 machine a hundred dollars or more will need to be spent for excluders. The large apiarist would be the one having the most interest, and a machine to become a success with him should be a very radical improvement.

In a paper which was read before the California Bee-Keepers' Association by "Rambler", and afterward publisht in this journal, he seems to set the pace for a machine to uncap several combs at once. That is a radical improvement in the right direction, and while we are inclined to say that it can't be done, it is very unsafe to say it, for more wonderful things than that are being done every day in this age of improvements.

I hope inventors will not take the above comments in the nature of a wet blanket. They are intended to lead

them to see the correct method, and not waste time upon a machine that will be but little, if any, better than the present knife. Instead of comforming to present usages they should seek in a field where the improvement would be so valuable as to lead the extensive bee-keeper not only to buy queen-excluders but to revolutionize his entire apiary, hives, etc., if necessary. There will be something of a reward for the inventor who will climb to this mark.

No. 11.—Interesting Notes on European Travel.

BY C. P. DADANT.

DURING one of the sessions of the International congress of bee-keepers, a French bee-keeper, Mr. Giraud, exhibited a frame containing dipt queen-cells, reared by the Doolittle method. This was a new thing for many present, and I wisht that Mr. Doolittle had been there to take a little of the praise that was bestowed upon this practical demonstration of the success of his teachings. Mr. Giraud and his three sons are practical, wide-awake apiarists, and have been for several years readers of an American bee-paper, and it was in this that they found the Doolittle method. They stated that they had reared 314 queens during the season of 1900, in the best one of their colonies, while the queen was laying and the bees working in the customary way. They used an 18-frame hive divided in two by a perforated zinc, and on the outside of the zinc they kept two frames with the dipt cells between two frames of brood, and kept adding more queen-cells as they removed the ones that were ready to hatch, and which were given to nuclei made by our method. An account of their doings so interested Mr. Calvert that they gave him two photographs of the artificial cell-breeding, and furnisht him with a statement in French that I translated for him.

On the last day of the congress, the secretary of the committee on Apiarian Statistics made his report on apiculture thruout the world. He had received so voluminous a correspondence from the different countries of Europe, and from America, on this subject, that it was impossible for him to give more than an abridgment of the statistics. But the detailed report will certainly be very interesting, and I hope to be able to give extracts from it to the readers of American Bee Journal whenever the printed report reaches me. I noticed with great pleasure that the report obtained from our own country, sent by the Department of Agriculture at Washington, was quite extensive. He also had reports from some of the States of South America.

During the afternoon session of the last day, the congress decided to hold its next meeting at Bois-Le-Duc, Holland, in 1903, with the same executive committee as for this congress, Messrs. Bonnier, president; Sevalle, vice-president, and Caillas, secretary.

That same afternoon, as the business of the congress was about over, and the sky was clear, as it had not been since our arrival at Paris, we ascended to the top of the Eiffel Tower—Mr. Calvert, my daughter, and myself. Going up into a monument a thousand feet high is not a thing of very great interest after one has been on mountains eight or nine thousand feet above sea level, but there is certainly no mountain in the world from which one can see as great a gathering of civilized people, as many mountains, or as many houses. The ascent may be made either in an elevator or by a stairway, but we selected the former without hesitancy, for just the looks of the spider-web structure of the stairway was enough to make us dizzy, and it costs just as much to walk as it does to ride. The elevators are large enough to contain some 60 persons, and they were full every time. And they are run very smoothly, and start with so slow a motion that one does not at all experience the sensation of falling down into a bottomless pit, as one feels when let down with a jerk from some of Chicago's sky-scrapers.

From the first platform, 200 feet up, one can view all the monuments of Paris, some 50 or sixty of them being very conspicuous because they loom up above the houses. The H shape of the Exposition grounds also shows itself plainly, and in the background, on one side, the heights of Montmartre, and on another the fortress of Mont Valerian stand in full view above the sea of houses. But when one attains the third platform, at a thousand feet of elevation, everything flattens down—the monuments, the hills, the white ribbon of the Seine, the Bois de Boulogne, the dozens of villages, seem only like a living map. A trip in a baloon would probably give a similar impression. The houses make a sea of red tiles, the river is a silver thread, and the parks are green spots here and there.

Speaking of parks reminds me that I failed to mention my visit to the experimental apiary of the Garden of Luxembourg. It was a disappointment. The spot is unique, for an apiary in the heart of one of the largest cities in the world. It is a very quiet corner, among the trees, the shrubs and the flowers, in the aristocratic garden of the palace of the French senate, and the bees fly back and forth unmolested and busy. But there are only a few hives, in a rather dilapidated condition, and it is evident that no pains are taken with them. The keeper very kindly permitted us to look at everything. We found half a dozen different practical hives, rotting without occupants, while a half-dozen straw-skeps and two or three odd patents seemed the only experimental feature. I enquired for an observation hive, and he showed me a hive with eight or nine frames with glass all around. What one could observe with such a hive is more than I could say. I was told that lessons in bee-culture were given every two weeks, in this place, during the summer. I doubt that any experiments of value are ever made there. France can afford something better.

In the evening of the last day, the apiarists of the congress were gathered at a banquet, in one of the restaurants of the exposition grounds, and numerous toasts were offered to the visiting delegates, who returned the compliments as best they could. On leaving, we opened our purses to pay our share, but the secretary, Mr. Caillas, informed us that the foreign delegates were guests, and that their expenses, even to the tips for the waiters had been paid by the management.

The following days two excursions were arranged, with special trains for the delegates to visit the apiaries of two of the members, all expenses paid by the association, and I regretted very much that I could not take advantage of this; but my time was limited, and I had to leave Paris that very same day.

If the Europeans are behind us in the matter of convenience of railroad cars, they are certainly ahead of us in securing cheap transportation. If I remember rightly, the amount paid by the association for these two excursions was less than a cent per mile, per person. Perhaps we will also get cheap travel here by-and-by, but in the meantime we need not be afraid of the cost of traveling in Europe, after we are accustomed to travel in this country. But I earnestly hope that we are not going to take the habit of "tipping" the waiters and servants as they do over there. It is sickening. You eat dinner—tip, You ride half a mile and discharge the cabman, pay—and—tip. You go to the theater, buy your ticket, and tip the ushers. You leave the hotel, tip the servants, the boot-black, the chamber-maid, the porter. Tip, tip, tip. Luckily they do not expect silver in every case, and this is the principal use of coppers. Two cents, three cents, make a very passable tip. If you give a dime, you get a smile. If you give a quarter, you get a fine bow. But if you give nothing, you had best not look behind, for a look of contempt will follow you till you are out of sight.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 6.)

COMB FOUNDATION—EXPERIMENTS, ETC.

Prof. Gillette—I have been experimenting some the last three or four years at the Colorado Experiment Station, at Fort Collins, to determine the manner in which the bees handle the foundation that is given them. It seems to me on so very important a question we ought to have more light. What weight foundation is best, for example, to use in the brood-chamber, and what is the best weight to use for comb honey? and to what extent does the giving of the foundation lessen the wax secreted by the bees? Do the bees really take the wax from the foundation and build it up both in the cells and down in the midrib of the comb? If so, to what extent? The experiments that I want to report upon are chiefly along these lines, and before proceeding, I might say what I say to you was publisht just recently in Bulletin 54 of the Experiment Station at Ft. Collins, which any of you can obtain, so long as they last, by simply addressing a letter to the director, and requesting Bulletin 54, on "Experiments in Apiaries." First, I thought I would endeavor to determine definitely whether or not bees do use the wax in the foundation. Everybody believes they do; no one doubts it; but I wanted absolute proof of it. I went to Mr. Elliott, who makes comb foundation, and askt if he could make for me some rather light foundation, and work into it a large amount of lampblack so as to make it exceedingly black. This he did, as you can see by looking at the sample of foundation which I have here—a small piece of it just as black as coal, or nearly so. This is about a medium weight of super foundation for comb honey; that was used in the sections. I used a strip one inch wide at the top for some of the sections, but others I put in a full sheet; by "full sheet," I mean a sheet like that of the black foundation. I find I haven't in my trunk—I didn't come from home and have not the samples that I had from the experiment station to show you, but I will simply have to tell you, and you will have to take my word for it. Where foundation like that was used, about one inch, it was workt down into the comb so that the black color would show nearly to the ends of the cells. I happen to have a little piece here from the full-piece foundation. This was fully drawn at the center; this comes out here near the sides. The cell-walls this far [indicating] are black, and the foundations used are nearly so.

A Member—Do I understand you to mean the black workt down from the strip of lampblack foundation at that part?

Prof. Gillette—Yes, so that in cutting thru the comb and looking at the edge of it, the black nearly faded out at the ends of the cells.

A Member—What was the object of getting that black to start with?

Prof. Gilette To see to what extent the bees did take that wax, and whether they used it right there where it was placed, or whether they carried it it all over the hive and used it in the foundation; in some places, a small amount of black wax was taken up by the colonies and used in smearing, but not to any great extent did they carry it away into any other section—used it right there; drawn right down into the midrib of the comb. Having proved definitely that they do use the wax in this way, I wanted to know whether or not they get that wax from the midrib of the foundation, or whether they get it from the cell-walls. For example, let that represent a section, tho the foundation, as you look at it, are the edges there. In any foundation there would be found, or in nearly all the foundations there would also be a short cell-wall as shown there. Now, do the bees get this wax that they build the cells out of, wholly from those little short cell-walls, or do they go down into the base and midrib itself, and use it in building out the cell-wall and extending the midrib? First, do they use the wax that is in the midrib? This I determined by three or four different means. First, by weighing the midrib. They drew out this wax into combs. The comb was then put into water and the honey all extracted, if they had filled it with honey. The cells were scraped off from the two sides, until they had only the midrib left. Here, for example, is a midrib that has been built out in a comb and the cells taken off again. Here is a sample of the foundation, on which that comb was built. Then I took pieces of foundation and of the midrib from the comb on that foundation, cut them in different sizes, and weighed them, and I found that the weight of the original foundation was considerably more than the weight of the midrib taken out of the comb built upon that foundation. But now it might be possible that the difference in the weight was all due to their using these little short cell-walls. The very heavy foundation weighed 11 grains to the square inch. Septum from the comb only weighed eight grains to the square inch after the bees had built the comb upon it and the comb-cells had been removed; then there is the difference between 8 and 11, or three grains to the square inch of the septum that had been used. In case of medium foundation, of which I have a sample here, and a sample of the midrib of the comb built upon this foundation—the foundation itself weighed 8.4 grains to the square inch; this midrib out of the comb weighed 5.18 grains to the square inch, being a difference there of about 3½ grains to the square inch of the midrib that the bees had used. The deep-cell foundation was also used; the foundation weighed 5.46 grains to the square inch. After the comb had been built upon the foundation and the comb-cells removed, then the midrib weighed only 3.44 grains to the square inch; but if I should take this foundation and cut off the deep walls here, just as close as I could, this foundation midrib weighed only 2½ grains per square inch. It actually weighs less right here in this foundation than it does after the bees have built the comb upon it, because they do fill in, in some places, on the bottom, and make it a little heavier, and the natural-comb septum, taking comb the bees have built entirely, not having given them any foundation at all, removing the cell-walls and taking the midrib of this comb, and it weighed but 2.1 grains to the square inch. The difference in weights here was evidently more than could be accounted for by the removal simply of these small cell-walls.

A Member—Were all those tested alike, by being immerst in water?

Prof. Gillette—No, sir, not in all cases. There were cases where there was no honey at all. Those were not put in water. In all cases they were thoroly dried before using; very frequently two or three days elapst before they were used. The next method which I used for determining whether or not they take the wax out of the midrib, was to fill the comb with plaster, and that was suggested to me by Pres. Root. I filled the comb with plaster of Paris, and making sections of it and measuring the width of the midrib, and cut in that way, as Pres. Root has explained in his paper, this holds the midrib; it is perfect, it is not spread out at all. I found by measuring the midrib of the comb built upon a foundation—it was in all cases where heavy foundation was used—the comb was very thin. In cases where light foundations were used, foundations in which the midrib does not extend seventeen one-hundredths of a millimeter, that they did not thin the midrib to any extent, usually not at all, which seems to me quite an important matter. If the midrib of the foundation does not extend seventeen one-hundredths of a millimeter in thickness, the bees will thin it but little, if any, very little indeed; very often scratch it over to make it opaque, but very little used; if thicker than that, they are sure to thin it some, but never thinning it down to the thinness of the midrib in the natural comb. Is that clear? If you use a heavy foundation the bees never thin the midrib down to the thinness of the midrib in the natural comb not in any case that I have found. I have placed upon the table here some of the different midribs that have been taken from combs; here is a specimen of midrib from natural comb, all made by the bees, and those other midribs are midribs taken from different specimens of combs made upon foundation. You will not find any as light as the natural-comb midrib, except in the kind where the deep-cell foundation is used. In some of those cases it is as thin as the natural. Do the bees thicken the walls of the comb where it is built upon foundation? I think there has been a difference of opinion in regard to that, some thinking that no matter how thick—how much wax you may put in the little short cells of the foundation, the bees will always thin it down to the thinness of the naturally built comb. To determine that point I proceeded in

this way: I took a goodly number of pieces of comb that had been drawn by the bees, and some natural comb, other samples of comb that had been built upon different kinds of foundation. And care was always taken in this case not to use a comb that had been capt, because, if the comb had been capt, it would have to be uncapt and the honey extracted. In that case, the ends of the comb would have to be removed, so I always took a comb that had not been capt. I found that by taking these samples of comb, scraping the comb-cells all off from the foundation, the wax of the midrib is left, and I consider these weigh the same perhaps in natural comb—that the bees do thicken the surrounding walls of the comb, so that they are heavier, as well as the midrib of the comb, and that is brought out in some figures that I have put upon these sheets of paper. In this chart—I don't know whether you have read it or not—you will note in this column is given the kind of foundation used, the first lot having no foundation at all, being natural comb; the next shows the thickness of the comb used. In this column I have given the weight of the entire comb per square inch. Suppose this was the comb, suppose it is an inch thick; we have given here the weight of a square inch of that comb. In the next two columns I have separated the weight of the comb into two parts—the weight of the midrib of that comb and the weight of the cell-walls in that comb, so as to give the two separate. We will take first the natural comb, which is 1.37 inches thick. You will understand I could not get comb made to order, but had to take samples out of the hive—the thickness as the bees had made it, getting them as nearly alike as I could, and taking the actual measures, comparing those that were nearest alike. In case of natural comb 1.37 inches thick, a little thicker than this comb here [indicating], the weight of that comb alone per square inch was 13 grains; the weight of the midrib averaging—I have given here in every case the average weight gotten by weighing quite a large number of samples, not giving the different weights. In this column I have given the weights of the cell-walls themselves—the wax in the cell-wall. The wax in the cell-wall here weighed 10.8 grains; in the midrib only 2.10 grains. This [indicating] is a sample of deep-cell comb, comb built upon this deep-cell foundation that was put out in 1888. Take the first sample 1.44 inches. This is a little heavier than the 1.37, the first one that I had in my samples to compare it with; the midrib there weighed 13 grains to the square inch; here it weighed 16.63—a difference of 3.63 grains for this comb. It is a little bit thicker, as you will see. The difference in the septum of the midrib is the difference between 2.1 and 3.7; the difference in the weight of the cells would be the difference between 10.8 and 12 93; those are the only two samples that are very close together in comparison with those weighed. We might pass to another sample of this deep-cell; the comb weighed 14.9, almost 15 grains to the square inch; the comb here weighing 13 grains to the square inch.

A Member—You have one there in the natural comb just exactly the same.

Prof. Gillette—That is right. I want to call attention first to the fact that this 1.13 style gives a heavier comb. This is 11.6 grains to the square inch while the other was 10.11 where it was 1.37 in thickness; comparing these with samples of comb of exactly the same thickness 1.13, the whole comb weighed 9.55 grains to the sq. inch; the whole comb here weighed 14.9 or almost 15 grains to the sq. inch; the midrib weighing 3.3; the cells themselves with the midrib removed weighed 11.6 grains, whereas up here they weighed 7.2 grains to the square inch. It is true in all the cases, where these heavy foundations were used that the weight of the cell-walls was increast as well as the weight of the foundation. I want to call attention to one overstatement in my bulletin which Pres. Root has also called attention to. I stated that the increase in weight of the cell-walls was greater than the increase in weight of the midrib where the heavy foundations were used; that is only occasionally true. It is often true that the increast weight of the comb is due more to the added wax in the cells than to added wax in the midrib. The increast weight of the comb is due to the increast wax in the cell-walls as well as the increast wax in the heavier foundation where the heavier foundations are used. That isn't true often where the foundations are, for example, the extra-thin and the thin foundation, and the rather shallow foundation put out by the Root Company. I found with those the cell-walls in the comb were just as light in many cases—in fact quite commonly so—as they were in the natural comb; but it seems to me it is proved beyond any doubt that if we add a large amount of wax, either in the midrib or short cell-walls of the foundation, we will always increase quite perceptibly the weight of the comb built upon that foundation. There is one other point which I will take time to bring out and that is: To what extent do we economize the secretion of the wax when we give bees comb foundation to build comb upon? To make the question a little clearer, if we give bees foundation that has wax enough in it already to build the whole comb, will they then secrete any wax, or use that wax and build the comb up? To bring that point out, let us refer to the figures that I have already upon the board. I might go on thru the list of these, but I think the examples I have used are enough. I used one foundation, this very heavy foundation which would average 11 grains to the square inch when cut up. Natural comb built by the bees, the average weight I found to be 10 grains to the square inch, the comb being one inch thick in both cases—10 grains to the square inch in the natural built comb, where it was 11 grains to the square inch in this foundation itself. Those are samples of comb one inch thick [indicating.]

Dr. Mason—One inch thick or one inch square?

Prof. Gillette—It is a comb one inch square. The comb built upon these heavy foundations, built out one inch thick, weighed 18½ grains to the square inch. Natural comb, as I told you, averaged only 10 grains to the square inch. The bees then having one grain to the square inch more wax than they needed, added to that foundation 8½ grains more of wax. In other words, you gave your bees 18½ grains of wax to save their secreting 2½ grains of wax, because 2½ grains added to 7½ make the 10 grains the bees would have used if they built this themselves. Take the lighter foundation, the medium Root foundation, running, I think, about 7 sheets to the pound, that foundation averages 8.4 grains to the square inch. The comb built upon it weighed 16½ grains to the square inch; that is, comb one inch thick, the bees added to that foundation so as to make it weigh 6½ grains to the square inch more than that natural comb would have weighed if they had made it all themselves. You give the bees 8.4 to save them from secreting 3.5 grains of wax. Without going thru the figures of the different weights, I found, I might say, that held thru all the tests I made. That is, to all these heavier foundations the bees still added a very large amount of wax from their own secretions, altho they did not need to do it. It seems to me that we only economize the secretions of the wax on the part of the bees to a very small exteut by giving them wax in the foundation. It seems to be the nature of the bees when building comb to secrete wax, they go on eating honey, I have no doubt, and secreting the wax to a very large extent, even tho wax was given them to begin with. Then what kind of a foundation can we use that would be most economical in comb building? Without using the figures, I might simply say I found the greatest economy apparently from my own measurements to be in the foundation which has, as measured, as nearly the weight of the natural comb midrib as you can get it—the foundation with the midrib just as near the natural as you could get it, and with not a very large amount of wax in the cell-walls of the foundation. I presume you have all used, to some extent, this rather short deep foundation. It seems to me that contains about as much wax in the cell-walls as can be given with the greatest economy in the building of the comb. I believe that is all that I will take time to tell you about now, unless you wish to ask questions, except simply to call your attention to some of the samples that I have here. In these little paper boxes, I have placed samples of sections of comb and of foundations, and many of them are arranged in this way—one of them showing the section of the foundation and the other the section of the comb built upon that foundation. I would like to have you examine the two and compare them, and see if you can see with your naked eye the comb built upon the foundation and midrib thinner than that built upon the foundation. Some samples show plainly, and I have markt it in this way: A sample markt A would be a sample of a foundation cut thru; a sample markt A A would be a sample of the comb built upon that foundation. The same is true of B, C, D, and so on. By bearing that in mind, you can tell which is the section of the foundation and which the section of the comb built upon it. I have also one or two sections here of the comb cut at right angles to the cells, and I would like to have you see how very delicate and beautiful the section of the natural comb is in that way. Also on these two pieces of boards, I have a sample of foundation and also a sample of the septum of comb built upon that foundation, and you can make comparisons of them. These can be past around.

D. H. Coggshall—I have noticed where we run for extracted honey, in increasing my amount of combs for ex-

tracting purposes, that by slipping a sheet of foundation in with the other combs, the bees will use their surplus wax that they produce on this foundation, and it saves me bur-combs. They don't crowd the extracting place; where there is a surplus place they fill up, they don't crowd so; where there is no foundation in there, they will crowd every spot and fill it all up with bur-combs. To overcome that when I extract, I cut deep slices from the combs; that wax goes in with the cappings, and I have it in wax. That is the way I overcome the bur-combs. Otherwise I claim the wax would be wasted. They will produce wax when they are gathering honey fast, and they must have some place to put it.

Pres. Root—With regard to this matter of foundations, we have Mr. Rankin here of the Michigan Experiment station who wishes to relate some of his experiments, which I think will bear out the experiments already given by Prof. Gillette.

Mr. Rankin—We had some samples of foundation which were made by the A. I. Root Co., of different weights, ranging all the way from 8 to 13 sheets to the pound. The sheets were the size of the Langstroth frame; we used these foundations in different ways thru the hives, and I used different methods of wiring. We used the vertical wires, some with 5 and some with 8 in a frame, and we used the horizontal wires 4 and 8 in the frame. We found it workt the best on the horizontal wires, every time. The vertical wires gave no satisfaction at all. There would be a weight between each wire, and the foundation stretcht. With the horizontal wires the wires sagged and the foundation stretcht and left a perfectly straight comb. I was showing it to Prof. Gillette when he was at the college. I think he would bear me out in the statement. It seemed a little bit strange to me, and quite interesting, and I might say, too, that the foundation with 13 sheets to the pound seemed to give just as good satisfaction as that of 8 sheets to the pound. I think that the lighter we get our foundation the more economical, and it will answer the purpose just as well. Two years ago we had an experiment in surplus honey. The advantage of full sheets or half starters has been clearly analyzed. It is shown there is just a little over one percent more wax in the sections which had the full sheets of foundation than those which had half-starters. The foundation used was Root's extra-thin, also the Dadant. There is no difference in the two foundations.

Pres. Root—The experiments which have been given, are quite interesting; they show bee-keepers have been using too heavy foundation. There has been too much wax in the midrib certainly, and, probably, too much in the walls. The experiment which Mr. Rankin gives, that 13 sheets to the pound, wires horizontal, give as good results as 8 sheets to the pound, wires horizontal, is quite remarkable. It isn't our experience, as I remember, but it is possibly correct. I think it would be well for bee-keepers to begin using four sheets to the pound. If you are using too much wax, you ought to know it. The experiments shown here, as given by Mr. Rankin, seem to indicate that you can use thin foundation in the brood-frames. We have been working, and so have all the foundation-makers, towards lighter foundation. Several years ago, heavy foundation was used by bee-keepers, and later they have been using lighter foundation, which has been a great economy to the bee-keepers and saved a great deal of wax as well.

Dr. Mason—Mr. Rankin stated in putting in vertical wires they sag; that hasn't been my experience. I use vertical wires and make my foundation right on the wires. I have tried the horizontal wires, and with me it has been a failure every time; a good deal more sag to it than with the vertical wires.

Mr. Fixter—Have any tried foundations milled at different temperatures, and found any difference in the working of the bees upon them? Which do they find best—the wax that is hard and stiff, or the soft, pliable wax?

Prof. Gillette—I have made no test.

Mr. Rankin—I don't know anything about that.

Mr. Taylor—In reply to this question, I may state that at the time I was conducting experiments for our experiment station in Michigan, I made an experiment upon that very point; I used wax in making foundation when it was at a very low temperature, just as low as it was possible and get to press it at all properly, and also at a high temperature, and I compared them and I could see no difference in the results. One seemed to be workt out just as well as the other.

Mr. Rankin—I would like to ask Dr. Mason how many sheets of foundation of the Langstroth size he says he gets to the pound with a Given press.

Dr. Mason—That depends altogether on how thick I make the sheets. From 4 to 10 sheets.

Mr. Taylor—You can make them 4 or 11, just as you are a mind to.

Continued next week.)

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Drones in Worker-Cells.

Last fall I bought a 5-banded queen, and after commencing to lay I noticed that about half of her brood in worker-cells were drones. Do such queens ever get over this drone-laying business? Or should I take off her head at once? She appeared to be laying less drone-eggs and more worker-eggs after being in the colony a few weeks.

MASSACHUSETTS.

ANSWER.—It sometimes happens that a young queen, or one that has been thru the mails, lays more or less drone-eggs in worker-cells, and afterward lays as a good queen ought. Don't be in too much of a hurry in deciding against her.

Bees Leaving the Brood-Chamber—Best Hive for Extracted Honey, Etc.

1. I have had bees for four years in Langstroth hives, and they always have been breeding below, but this year they all went up into the supers; some hives had no bees and no honey below at all. We had a very hot summer. Was it too hot for them below?

2. I am working for only extracted honey. Which is the best hive for the purpose.

3. Should I use a hive with 8 or 10 frames? and what kind of frames are the best?

4. My best honey-flow is in September, and the first part of October. From what flowers could that be?

5. In what hive can bees be handled the best and the easiest?

NEW JERSEY.

ANSWERS.—1. The heat would hardly account for the bees going above, for generally it is warmer above. In the cases where there was neither brood nor honey below, it looks as if they might have had the super or upper story all winter. In that case, they might move above in the spring because it is warmer above.

2. There is probably nothing better for you than the Langstroth size of frame.

3. For extracted honey, you will like ten frames better than eight. As already said, the Langstroth size of frame, 17⅝x9⅛, is not excelled. If bee-glue is not troublesome in your locality, you may like the Hoffman frame, but if bee-glue is plenty, it will be better to have frames spaced with staples or nails. For extracting-frames it is better to have in the upper story shallow frames not more than 6 inches deep. The objection is that such frames can not be used in the brood-chamber.

4. Hard to tell without being on the spot. Possibly asters or goldenrod.

5. There isn't much to choose. Perhaps nothing better than the common dovetailed hive. Remember it isn't the hive that makes a difference so much as the man, the locality, and the bees.

Managing Swarming in Out-Apiaries—Bees Fanning at the Hive-Entrances.

1. On page 808 (1900) "Ind." asks how you run your out-apiary for comb honey. You say your latest plan was to visit the yard from 5 to 7 days. How do you go to work then—take out every frame and see if there are any queen-cells on them? And then you say, Destroy the eggs or grubs so as to keep them from swarming. I should judge that that would be quite a job, to look over an apiary of 100

colonies or so. Now, some bees will swarm without having their cells capt; where will your swarm be if you don't go there within 5 or 7 days? Anyhow, the queen would be gone. As I understand that you clip your queens' wings, I think it would be the safest way to have somebody right along with them.

2. Why are there always some bees fanning at the entrance? Some say it is for ventilation. I hardly agree with that, because my bees had a flight yesterday, and then some were fanning. If that is to cool the hive, what are they going to do when it is about 100 degrees in the shade?
ILLINOIS.

ANSWERS.—1. You are right; it is quite a job to look thru a lot of hives for queen-cells; you are also right in thinking it would be a safer plan to have some one watching for swarms. But it would be a good deal of expense to have an extra hand at each apiary to watch for swarms. Of course, there's no law against others having a watcher on hand all the time.

Yes, some colonies will swarm, and the swarm will be right there in the old hive (except in a few cases where it may enter another hive.) Then the thing needed is to destroy the extra cells, or in some way provide against a swarm issuing again.

I'm not insisting that the plan is satisfactory, and as soon as I learn something better I'll drop the present plan.

2. In nearly all cases bees ventilate at the entrance for the purpose of changing the air in the hive. Even if the air was none too warm it might need changing on account of its impurity. In the case you mention it is just possible that the air in the hive was warm or foul, notwithstanding the fact that the outside air was not above 50 degrees. After being confined to the hive quite a number of days, the bees may become very much excited upon the occasion of a flight, and that excitement may run up the inside temperature above the desired heat. It is quite likely, however, that you had one of the exceptional cases in which bees ventilate without any need of ventilation. I'm not certain whether the books tell about it, but one may often notice a bee ventilating at the entrance because it has accidentally got to the wrong hive, or for some reason is afraid of the reception it will get. A bee afraid as to its reception falls to ventilating, apparently because it thinks it will show it is willing to go right to work helping as one of the members of the colony, and ventilating is the first work that comes to hand. When a strange bee goes to ventilating it is not likely to be ill-treated by the guards.

Grading Honey by Tinted Glass.

I notice on page 88 some comments on the grading of honey by color, by the use of tinted glass, and I wonder if the idea originated among the British bee-keepers. It was advanced something like a year ago in the columns of the Progressive Bee-Keeper, and, by following instructions there given, by the use of a number of glasses of different tints it can be graded by numbers from the darkest buckwheat to water-white. NORTH CAROLINA.

ANSWER.—Yes, perhaps as long as two or three years ago, there was some discussion in American bee-papers as to the matter of grading by samples of glass, celluloid, etc., and the British idea may have started from that, or it may have been an indigenous product. At any rate, our British cousins seem to have gotten the start in the matter of actual application.

Does Sweet Clover Cause Bloat, or a Bad Flavor in Milk or Butter?

Does sweet clover ever bloat cattle or sheep as alfalfa or red clover does? Does sweet clover give a bad flavor or odor to milk or butter? NEBRASKA.

ANSWER.—I do not know why, under favorable circumstances, sweet clover might not cause bloat as well as alfalfa or red clover, but I do not remember seeing any report of the kind, nor any report as to its giving bad taste to milk or butter.

Worker-Combs Rejected by Bees.

I have a large quantity of good worker-combs, but being empty and not in use, they were laid aside for a season in a damp place. On this account they got hard and brittle. The bees now reject them, tho placed in the very center of their hives on a warm summer day. They pass over them, or destroy them. Can any one suggest a remedy? Is there any way to soften them, or make them acceptable to the bees? ONTARIO.

ANSWER.—I don't know of anything to help, if the combs are so bad that the bees destroy them. Who does?

The Afterthought.

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Richards, Ohio.

POLLEN AND HONEY AT THE SAME TIME, ETC.

Most of us know, notwithstanding scientific doubts thrown at us, that bees often gather both nectar and pollen at the same time, but I suppose few had right in hand the *positive* proof to reply with which a scientist would require. I am glad Mr. Davenport is able to say he has taken hundreds of bees laden with both. I see no reason why a good colony scant of stores might not be given a super of unfinisht sections in a warm cellar. Glad to hear that this style of feeding marks well on a considerable scale. If honey that has been fumigated with bisulphide of carbon will kill a colony of bees in the cellar, said honey is pretty sure to be of no particular good to delicate human stomachs. That experiment ought to be repeated until we know whether the death of the bees was from poison or from fortutious circumstances. Page 776.

SELECTING A HOME BEFORE SWARMING.

"Rip" is undoubtedly right that bees do not *always* select a home before swarming. We may suspect as much when they have a long distance from the home hive, and take a decidedly different direction when they start again. Also when a prime swarm comes out on a desperately hot afternoon, with little or no preparation visible in the hive. It is not likely that invisible preparations have been going on when there were no visible ones. That virgin queen got so tired in flying 50 feet that it took three days to rest her enough to start again, the "born-tired" record may be conceded to her, altho some human parlor-virgins could doubtless run her close. Page 777.

HONEY-DEW IN WINTER STORES.

McEvoy's experiment of wintering with honey-dew is instructive, especially that part of it where part of the combs held good honey, and the bees lived somewhat longer for it but perisht eventually. Page 779.

CORKING A HONEY-FUNNEL.

The cork on a wire to stop and unstop a honey-funnel from the inside looks like one of those trifling but very valuable little inventions which sometimes come along. Page 787.

SILVER LINDEN NOT GUILTY OF KILLING BEES.

Notwithstanding the reliability of the journal that makes the accusation, I strongly think the silver linden is not guilty of killing the bees. Bees died of disease otherwise contracted while the accused tree happened to be in bloom, I think. Such disease need not be much different from the one sometimes called "footing it," when we see multitudes of bees not able to fly crawling on the ground about the apiary. It is not impossible, moreover, that the same fungus which injures the lindens, and keeps them from yielding as they used to do, also injures the bees, which get more or less of the spores of mycelium. Page 788.

BURNING COMB TO SETTLE A SWARM.

Most of our veterans will smile at burning comb to make a swarm settle. And yet more unpromising things than that *have* been known to turn out well. In famine times the *other* flying bees of the apiary would be drawn by the smell of wax; and a swarm long on the wing might come, not to the smell, but to the crowd. For just once in their lives the bees belonging to the swarm don't want to gather anything—or do anything except "sciugle." At least that's the "orthodox" view of it. Page 788.

Langstroth on... The Honey-Bee

Revised by Dadant—1899 Edition.

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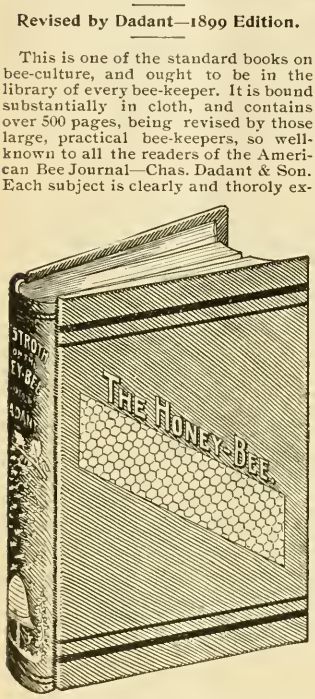

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GENERAL ITEMS

The "Know It All" Kind.

I have been trying to get new subscribers to the American Bee Journal, but the bee-keepers around here seem to "know it all," tho they find there is something lacking when they compare their honey-yield with mine, which is usually two or three times larger than theirs. H. C. BINGER.
Shiawassee Co., Mich., Dec. 29.

Bees in the Cellar.

My 36 colonies of bees have been in the house-cellar since Nov. 17th, with the temperature from 38 to 45 degrees. The bees are quiet and dry, and there are perhaps a quart of dead bees on the cellar-floor. I have been looking at the bees and their workings thru a low-power magnifying glass, and feel that what a high-power microscope would reveal must be wonderful. The bees and the bee-hive are a constant source of wonder and surprise to me.
F. W. HALL.
Sioux Co., Iowa, Dec. 25.

Bees in Fair Condition.

I commenced keeping bees two years ago, getting my start from a colony of bees that I found in a knot-hole in the side of the house.

This year was almost a failure here. We secured no surplus, but our bees are in fair condition for winter. I think this locality is all right; I am going to give it a fair trial, anyway.

The American Bee Journal is just what every bee-keeper needs in his business. Success to it.
DAN N. HASKIN.
Lancaster Co., Nebr., Dec. 21.

Gathering Pollen and Nectar.

During the forepart of the past season we had such a drouth as was never known here before. Bee-keepers, as well as those in other lines of business, were very much discouraged, and expected very little profit but the July and August rains brought new life, and the result was better than expected.

My yard contained 29 colonies, spring count. They increast to 56, and stored a surplus of over 1,000 pounds.

On page 776 (1900), Mr. Davenport refers to a statement made some time ago, that bees do not gather both honey and pollen on the same trip. I noticed the same statement, and thought if it were true at all it most certainly was not universally so. My observation confirms what Mr. Davenport says. I never thought of making a test at the hive-entrance as he did, but have observed closely the bees on the honey-pollen flora. Their every movement and appearance were convincing that they were loading with both honey and pollen. This was especially noticed on the bloom of the high bush cranberry. This bloom is a cluster formed by a number of small blossoms, whose petals touch each other, forming a beautifully archt sur-

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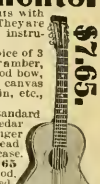

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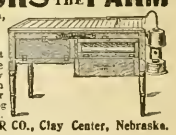

SURE HATCH INCUBATOR CO., Clay Center, Nebraska.

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——Muth's Square Glass Honey-Jars.——
Send for Catalog.

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GINSENG $10. in plants produce $4,069.10 in 10 years. Book telling how to grow it, &c. Lakeside Ginseng Gardens, Amber, N.Y
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Last winter's cut of basswood is the whitest it has been for many seasons. We are now making sections out of this new stock and therefore are in a position to furnish you with the very finest quality in the market.

LEWIS WHITE-POLISHT SECTIONS

Are perfect in workmanship and color.

Orders shipt immediately upon receipt. A complete line of everything needed in the apiary. Five different styles of Bee-Hives.

Lewis Foundation Fastener simplest and best machine for the purpose. Price, ONE DOLLAR, without Lamp.

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Special Southwestern Agent.

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Bee-Hives and Honey-Boxes

in car lots, wholesale or retail. Now is the time to get prices. We are the people who manufacture strictly first-class goods and sell them at prices that defy competition. Write us to-day.

Inter-State Box and Manufacturing Company,

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TREES Fruit and Ornamental, Shrubs, Roses, Vines, Plants, Bulbs, Seeds. The best by 47 years test. 1000 acres, 40 in Hardy Roses. 44 greenhouses in Everblooming Roses and Plants. Mail size postpaid, safe arrival guaranteed, larger by freight or express. Try us, our goods will please you and direct deal will save you money. Correspondence solicited. Valuable catalogue free. **STORRS & HARRISON CO., Box 286 Painesville, Ohio.**

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Best on Earth

What? Our New Champion Winter-Cases. And to introduce them thruout the United States and Canada we will sell them at a liberal discount until Oct. 15, 1900. Send for quotations. We are also headquarters for the No-Drip Shipping-Cases.

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FOR SALE!

Best Extracted Alfalfa Honey

Guaranteed absolutely Pure Bees' Honey. Packt in 5-gallon tin cans, of about 60 pounds each, two cans to the case, 7½ cents per pound, cash with order. Buy direct from the home of Alfalfa. We can please you. Headquarters for ALFALFA and SWEET CLOVER SEED. Write for prices. **Vogeler-Wiedemann Co.,** 60-62 W. First So. St., Salt Lake City, Utah.

43Atf Please mention the Bee Journal.

face. The place is a little paradise for the bee, which moves from cup to cup sipping, and apparently making the same movements as when gathering nothing but nectar. At short intervals it rises, works its legs as when placing pollen, and then alights again on another part of the cluster, only to repeat the movements. The light-colored pollen is plainly seen, and the fact that the bee is intent on sipping from every bloom it comes to is evidence that it obtains at least some nectar. E. S. Roe.

Todd Co., Minn., Dec. 20.

Very Poor Season.

The past season was a very poor one for me. Bees did not do anything after July 1st, but what honey I did have was fancy, and I got a good price for it.

I should be lost without the American Bee Journal. J. L. Haight.

Delaware Co., N. Y., Dec. 26.

Heavy Loss on the Cotton Crop.

My bees did fairly well the past season, but I lost my cotton crop by the overflows. The loss amounted to about $1.500. The crop was overflowed on two occasions in September, and again in October. J. D. Givens.

Dallas Co., Tex., Jan. 1.

Sainfoin—A Brewery Plant.

I notice Mr. Dadant mentions sainfoin, or esparcette, or Holy hay, as a honey-plant in France. I have conversed with an Irishman about it, and he says that in Ireland it yields great quantities of nectar, and is an excellent fodder-plant. I would like to know if any bee-keeper in America has had any experience with this plant,

We Can't Give Away Anything

You pay for what you get in this world. You understand that. But as a business proposition we want you to try our great medicine for Indigestion, Constipation, Biliousness, Sick Headache, Insomnia, "the Blues," and like complaints—

Laxative NERVO-VITAL Tablets

We know you won't buy it, until you know something about it. The best way to get you to know how good it is, is to let you try it. That's what we do. Send Stamp for "Health" booklet, and we will send you a free sample package, that you may try it yourself. We know you will always keep it in the house, if you once try it. What fairer offer could we make? At all Druggists—10 and 25 cents.

Handsome Stick Pin FREE!

If, instead of sending for a sample, you send us 25c we will send you "Health" booklet, a 25c box and a handsome gold stick-pin, set with emerald, ruby or pearl, warranted to be worth double the money. Order by number. This is an extra introductory offer. Only one pin to one person. If unsatisfactory, money returned. Send now while the offer is good.

MODERN REMEDY COMPANY, KEWANEE, ILLINOIS.

[*This company will do exactly as it promises.—Editors.*]

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and if so, I wish there might some day be publisht an article giving his experience with it.

We have a honey-plant here that is a good one. It is a biennial, and has only a few long narrow leaves the first year; the second year it has a long stalk and commences to bloom. The flowers are blue, and from June until frost you should see the bees on it; I have heard them fairly shouting over it, like a lot of schoolboys just let loose. I do not know the name of it, but the flowers are not larger than a Canadian five-cent piece. I have seen them growing only in two places in Canada, and it seems to me we must have gotten them in some brewery refuse in some way, as they were growing around breweries.

W. D. HARRIS.

Ontario, Canada, Dec. 21.

Did Fairly Well.

Bees did fairly well in this locality. I secured about 4,000 pounds of comb honey from 57 colonies, with an increase of 20. C. A. STANNARD.

Lapeer Co., Mich.

A Discouraging Season.

In the spring we started with the expectation of having a good honey season, as our bees were out in good time, and went to work. The weather was warm so that we soon had plenty of bees. White clover bloomed in abundance the last of May, but the bees did not store any honey from it. Basswood has been our main source for honey, but the worms destroyed that two or three years ago, and last fall they stript the trees of their leaves again. Our crops this season run all the way from 0 to 50 percent of a crop, so far as I can learn of my bee-keeping neighbors. Some sell their comb honey at 10c per pound, and the extracted at from 5 to 8 cents. It is hard to keep up a home trade where we run across some one else peddling it at 50 cents per gallon, and three sections for 25 cents. I get 8 cents per pound for extracted honey, and that is the only kind I have. F. C. SMITH.

Pierce Co., Wis., Dec. 19.

A Successful Beginner's Report.

Two years ago I became interested in bees by hiving a large swarm that alighted near my home. I put them in the back yard and began to study their habits. I found the subject so interesting that I gave it all my spare time. Not knowing exactly how to care for them, the first winter killed so many that I started in the spring with only a handful, and it was all they could do to get ready for last winter, but they came thru in fine condition. I took off the first surplus honey (28 pounds) last summer, and fixt them for this winter leaving them about 35 pounds of honey. I use the 10-frame Langstroth hive. A bee-keeper living near here who saw the bees last summer said it was the finest colony he had ever seen. Having just the one colony, and buying the very best of everything, I was able to keep it as neat as a pin, and I also profited by the valuable suggestions found in the American Bee Journal. As soon as possible I hope to increase to 3 colonies, which will be as many as my business will allow me to care for.

Are You Making Money?

—Out of your poultry we mean. If not there is something wrong. May be you didn't start right. We have published a book called the

20th CENTURY POULTRY BOOK

which helps to start poultry people right and then keeps them right. Tells all about the business and about the best—THE RELIABLE INCUBATORS AND BROODERS. They are used all over the world. The book will be sent on receipt of 10 cents as long as the supply holds out. Better order at once. Reliable Incubator & Brdr. Co., Box B-2 , Quincy, Ill.

The Ohio Farmer

—AND THE—

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Both One Year for only $1.40.

THE OHIO FARMER is clearly one of the leaders of the agricultural papers of this country. It is a 20-page weekly, often 24 pages, handsomely printed on good paper, and **CLEAN** in both reading and advertising columns. It has the largest actual staff of editors and correspondents (all farmers) of any farm paper publisht, and is practically progressive in defending the farmer's interests.

IT WILL HELP YOU MAKE "THE FARM PAY." Send to OHIO FARMER, Cleveland, Ohio, for a free sample copy.

REMEMBER, we send both the Ohio Farmer and the American Bee Journal, both one year for only $1.40. Address,

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To Exchange Bates & Edsmonds 1½ and 3 h.p. gasoline engines. Wanted —foot-power saws, lathes and machinery of all kinds. **ROBERT B. GEDYE, La Salle, Ill.**
1A2t Mention the American Bee Journal.

Machinery FOR SALE.—Tenon machine, doving machine, two-spindle shaper, saw-table, guages and saws, shafting, pulleys and belting. FRED DALTON, Walker, Mo.
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The "Barler Ideal" OIL-HEATER....

Saves Its Cost Every Year!
NO ODOR! NO SMOKE! NO ASHES!
Costs only a cent an hour to run it.

The editor of the American Bee Journal is using the "Barler Ideal" Oil Heater, and it is all right in every way. We liked it so well that we wanted our readers to have it too, so we have recently arranged with its manufacturers to fill our orders. The picture shown herewith is the one we recommend for general use. It is a perfect gem of a stove for heating dining-rooms, bed-rooms, and bath-rooms. It hinges back in a substantial way, and is thoroly well made thruout. The urn removes for heating water. The brass fount, or well, has a bail, and holds nearly one gallon of kerosene oil. It is just as safe as an ordinary lamp. You wouldn't be without it for twice its cost, after once having one of these stoves. Most oil-stoves emit an offensive odor, but this one doesn't. Its hight is 2½ feet, and weighs 20 pounds, or 30 pounds crated ready for shipment, either by freight or express.

Price, f.o.b. Chicago, **$6.00**; or, **combined with a year's subscription** to the American Bee Journal—**both for only $6.50.** FULL DIRECTIONS GO WITH EACH STOVE.

If you want something that is really serviceable, reliable, and thoroly comfortable, you should get this "Barler Ideal" Oil Stove, as it can easily be carried by any woman from one room to another, and thus have all the heat you want right where you want it.

Address,

GEORGE W. YORK & CO.,
118 Michigan St., Chicago, Ill.

Please mention the Bee Journal when writing Advertisers.

The white clover was a total failure here last summer. All the honey our bees stored was from sweet clover which is very abundant in this locality. The late Mr. Muth, I believe, is given the credit of being the one who covered our clay and stony hills with it.

Altho I am only keeping bees for the enjoyment I derive from it, I could not have succeeded as I have without the help of the Bee Journal.

A. W. MACBRAIR.

Hamilton Co., Ohio, Dec. 19.

A Hard Season For Bees.

Owing to continued wet weather the past season was a hard one for bees in this county, tho nearly all bee-keepers secured a little surplus, and very few had to feed for winter, so we ought not to complain. Some localities had a fair crop.

From 30 colonies spring count I increast to 40 and took off 900 pounds of surplus honey. Only about 600 pounds were finisht sections, and I had about 600 unfinisht sections.

In most places in this county bees went into winter quarters rather light in bees, but a good quality of stores. Like all good bee-keepers I am looking for a good season next year.

I like the idea of printing each week on the front page of the Bee Journal a picture of one of the leading bee-keepers. I always read an article with more interest when I know what the author looks like. The pictures of the different apiaries from all over the country are also a very interesting feature to me. Keep the pictures coming, even if you have to ask a little more for the Journal. In fact, I think you are giving us a most excellent paper for the price we pay for it.

O. B. GRIFFIN.

Aroostook Co., Maine, Dec. 15.

Loss From Diseased Brood.

This has been another bad year for bee-keepers in this part of the country. Foul brood, black brood, or pickled brood—call it what you may—is doing its work. It looks the same as the comb of infected brood shown at the National Bee-Beepers' Convention in Chicago last August. I had nearly 50 colonies and nuclei affected with it. I treated them according to the McEvoy plan, but the disease reappeared in some colonies, while others dwindled away in spite of my efforts to strengthen them. The "glue-pot smell" was absent in all cases, but the dead brood was sour, and had a very offensive odor after it commenced to turn black. There were only two colonies in which I detected the "glue" smell, and in which the decayed matter had become ropy.

I purchased 11 colonies and transferred during fruit-bloom, and at that time there were no signs of the disease. In June I detected the disease among them, and by fall all were dead. I sacrificed several good colonies trying to build them up.

Not one of the infected colonies stored any surplus, but twenty colonies alongside which were not infected, stored from 20 to 60 pounds per colony of beautiful comb honey.

The disease first appeared here in

Sharples Cream Separators: Profitable Dairying

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO., 118 Mich. St., Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

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has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

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Be Kind to Stock

by humanely dishorning them only with the quick, smooth cutting

Convex Dishorner.

I also make the Bucker Stock Holder, one of the best aids to dishorning, and two other styles of Dishorners, one for calves. Every approved appliance for this work. **Send for FREE book.**

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Western trade supplied from Chicago.

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Have you anything to do with either Fruits or Vegetables Then keep in touch with your work by subscribing for the

American Fruit and Vegetable Journal

Publish 713 Masonic Temple.... CHICAGO, ILL.

Sample copy free. Mention this paper.

I have before me a copy of the American Fruit and Vegetable Journa, which I like pretty well. It fills the bill better than any paper I have seen lately. IRA C. TRACY,
Foreman in the Home Nurseries.

I was much pleased to receive your publication. It is a very neatly printed and well edited journal, and merits success. D. W. BARKLEY,
Editor of the "Rocky Ford Enterprise."

All departments of the Fruit and Vegetable business discust by practical and experienced persons.

FREE! We will send the above Journal absolutely FREE for one year as a premium to all old subscribers sending us $1.00 to pay their subscription one year STRICTLY IN ADVANCE. **Both papers for the price of one.** Send your renewal subscription to this office while this offer is open. **Both papers, $1.00.**

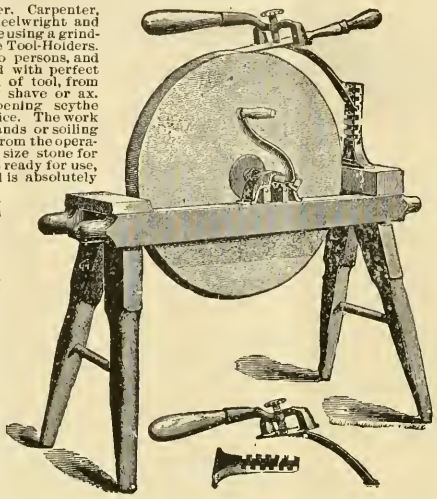
AMERICAN BEE JOURNAL, 118 Mich. St., Chicago, Ill.

A HANDY TOOL-HOLDER!

Sent by Express, for $1.50; or with the Bee Journal one year—both for $2.00.

Every Manufacturer, Miller, Carpenter, Cabinet Maker, Machinist, Wheelwright and Quarryman, Farmer, or any one using a grindstone, should have one of these Tool-Holders. One boy can do the work of two persons, and grind much faster, easier and with perfect accuracy. Will hold any kind of tool, from the smallest chisel to a draw shave or ax. Extra attachment for sharpening scythe blades included in the above price. The work is done without wetting the hands or soiling the clothes, as the water flows from the operator. It can be attached to any size stone for hand or steam power, is always ready for use, nothing to get out of order, and is absolutely worth **100 times its cost.**

No farm is well-equipped unless it has a Tool-Holder. Pays for itself in a short time.



How to Use the Holder.

DIRECTIONS.—The Tool is fastened securely in the Holder by a set-screw and can be ground to any desired bevel by inserting the arm of the Holder into a higher or lower notch of the standard. While turning the crank with the right hand, the left rests on an steadies the Holder; the Tool is moved to the right or left across the stone, or examined while grinding, as readily and in the same way as if held in the hands.

For grinding **Round-Edge Tools,** the holes in the standard are used instead of the notches.

GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL.

26 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying **26** cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price.

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GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

Doolittle's Queen-Rearing Book

FREE—For Sending Us TWO New Subscribers for One Year at $1.00 Each.

Scientific Queen-Rearing,

as practically applied, describes and illustrates a method by which the best Queen-Bees are reared in perfect accord with Nature's ways. It is written for the amateur and veteran in bee-keeping, by Mr. G. M. Doolittle, the leading queen-breeder of the world.

Index to the Chapters of the Book.

—o—

Importance of Good Queens; Nature's Way of Rearing Queens; Another of Nature's Way; Old Methods of Rearing Queens; Later Methods of Rearing Queens; New Way of Rearing Queens; Getting the Bees off the Cells; What to do with the Queen-Cells; Queen-Cell Protectors; Nuclei—How to Form; Nuclei—How to Multiply; Bee-Feeders and Bee-Feeding; Securing Good Drones; Introduction of Queens; Introducing Virgin Queens; Keeping a Record of Cells, Queens, Etc.; Queen-Register; Clipping the Queen's Wings; Shipping, Shipping-Cages, Bee-Candy, Etc.; Queens Injured in Shipping; Quality of Bees and Color of Queens; Rearing a Few Queens; Later Experiments in Queen-Rearing; Latest Feats in Queen-Rearing.

Bound in cloth, price $1.00, postpaid; or we will mail it **FREE** as a premium for sending us **TWO NEW** subscribers to the American Bee Journal for one year, at $1.00 each; or for $1.60 we will mail the book to any one and credit a year's subscription on the American Bee Journal. Address,

GEORGE W. YORK & CO. 118 MICHIGAN ST., CHICAGO, ILL.

1894 or 1895. The next year after its appearance I lost 70 colonies. That was genuine foul brood, and I showed it no mercy but burnt everything. Since then I have suffered but little from its effects, until the past year and then I was puzzled. I do not know whether I will stock up again or not, as I believe every apiary in the bottoms is infected more or less. If I remain in the business the coming season I will fall back on the fire remedy, as I know that is sure.

The season here was fair for honey, and the good colonies stored honey until the last of October. Out of 70 colonies I have about 30 left, and will lose more by spring. C. A. HAINES.

St. Clair Co., Ill., Dec. 25.

Poor Season and Poor Prospects.

I began the bee-business 7 years ago with one colony. I now have a monster apiary of two colonies, altho I have had as many as 15. During the past summer there was no clover of any kind, and the two colonies did not cast any swarms, nor did they store enough honey for winter, and so had to be fed. If I could get 1600 pounds of honey from one colony, spring count, as was reported the other day, from my two next summer I might get 3200 pounds, which would be some encouragement to continue, but the way things look now I shall have neither bees nor honey by next fall. When people tell about having to feed their bees for winter, I know how to sympathize with them, but some of the stories that get into the papers are big enough to choke me. J. V. B. HERRICK.

Hennepin Co., Minn., Dec. 25.

The Lightning-Bug Bee!

While the long and short tongued bee is being so much discust I wish to say that I bought a strain of bees from an old fellow that kept a few bees in this neighborhood years ago, and they *do* say they crost with the lightning-bug and workt by night! (No queens for sale.) DANIEL JONES.

Marshall Co., Ill., Dec. 24.

A Drouth for Three Years.

An unprecedented drouth of three successive years has visited southern California, and the bee-keepers' and the grain farmers' interests suffered very severely, we are reduced in numbers to a minimum of a few apiaries, and we had to work out to make ends meet. We all hope for a better season to come.

This is the land of perpetual sunshine, but farmers and bee-keepers have been scanning the sky for rain-clouds, only to be disappointed, and a radiant hot sun pours forth on the hills, valleys, and meadows. GUSTAV VOSS.

Riverside Co., Calif., Dec. 22.

Hardly Paid Expenses.

The bee-business has hardly paid expenses the last three seasons, and it is hard scratching to spare the money for my subscription, but you can't run the "Old Reliable" without money, and I can't do without the paper. I will try to keep bees one more year before I give it up. T. M. BARRETT.

Orange Co., Calif., Dec. 20.

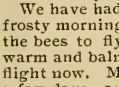
Good Honey Crop.

We had a good honey crop in the spring, securing an average of nearly 70 pounds of comb honey per colony, but our fall flow failed entirely, and we found feeding necessary for the first time in six years.

We have had a lovely winter so far—frosty mornings, but warm enough for the bees to fly every day. To-day is warm and balmy, and bees are in full flight now. Maple will be in bloom in a few days, and pollen-gathering will begin.

I feel as tho I can not do business without the American Bee Journal, which, I think, is the best of all bee-literature. F. M. CREIGHTON.

Dodge Co., Ga., Dec. 24.



200-Egg Incubator for $12.00

Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.
GEO. H. STAHL, Quincy, Ill.

46A25t Please mention the Bee Journal.

50 VARIETIES.

I breed fine poultry on one of the best equipped poultry farms in the world. Send 6c in stamps for new 1901 Book, telling all about 50 varieties, with special prices on fowls and eggs.
B. H. GREIDER, Florin, Pa.

Wanted! Two or three apiaries for cash, located in Colorado. Give full particulars in first letter, and lowest cash price; comb honey preferred.
1A1f THOS. C. STANLEY & SON, Fairfield, Ill.

A WHOLE GARDEN For 14c.

We wish to gain this year 200,000 new customers, and hence offer

1 Pkg.	Salzer's Blue Blood Tomato..	15c
1 "	The Northern Lemon.....	15c
1 "	Mama's Favorite Onion.....	10c
1 "	Emerald Green Cucumber....	10c
1 "	Ivy Gourd Seed.....	10c
1 "	13 Day Radish.....	10c
1 "	LaCrosse Market Lettuce....	15c
3 "	Elegant Flower Seeds.....	15c

Worth $1.00 for 14 cents. $1.00

We will mail you this entire $1.00's worth of splendid seed novelties free, together with our large illustrated Plant and Seed Catalogue on receipt of this notice and 14c in postage

Choice Onion Seed 60c lb and up.

Potatoes at $1.20 per barrel and up

Catalogue alone, 5 cents. T

JOHN A. SALZER SEED CO., LaCrosse, Wis.

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without repairs We warrant our Cyphers Incubators to do that and guarantee them as follows—to require no supplied moisture; to be self-ventilating and regulating; to operate with less oil and expense; to be fire proof; easiest to operate; to produce stronger chicks; to out-hatch any other machine or money refunded. Circulars and prices free. 192 page book, "Profitable Poultry Keeping," 200 new illustrations for 10c stamps. Ask for book 50 Address nearest office.
Cyphers Incb. Co., Chicago, Ills., Wayland, N. Y., Boston, Mass.

BEE-BOOKS

SENT POSTPAID BY

George W. York & Co. 118 Mich. St. Chicago.

Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

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Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condensed treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper.

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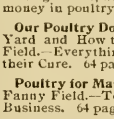

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COLUMBIA INCUBATOR CO., 5 Water St., Delaware City, Del.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Dec. 21.—The demand has fallen off very much of late, but prices have not declined to any great degree from those prevailing for the past 60 days, but any pressure to sell would cause a decline. Fancy white comb, 16c; No 1, 15c; amber and travel-stained white, 13@14c; dark and buckwheat, 10@11c. Extracted, white, 7½@8c; amber, 7@7¼c; buckwheat and other dark grades, 6@6½c. Beeswax, 28c.
R. A. BURNETT & Co.

KANSAS CITY, Dec. 21.—Honey market firm, demand steady. Fancy white comb, 24-section case, $3.50 to $3.75; 12-section case, $1.90 to $2.00; amber, case, $3.00 to $3.25. Extracted, white, 8@9c; supply fair; receipts and demand good. Beeswax, 22@30c. Demand fair.
W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

BUFFALO, Dec. 20.—Honey continues to drag at quotations. Holiday business kills every thing, almost, but presents. Fancy 1-pound comb, 15@16c; common, 10@14c, as to grade. No extracted wanted. BATTERSON & Co.

ALBANY, N. Y., Dec. 22.—Honey market quiet with light stock and light demand, especially for extracted, in which there is very little movement at present. While we do not change quotations, they are nominal at present. We look for better demand at beginning of new year.
Fancy white, 17@18c; No. 1, 16@17c; No. 2, 14@15c; mixt, 13@14c; buckwheat, 12½@13½c. Extracted, white, 8@8½c; mixt, 7@7½c.
H. R. WRIGHT.

BOSTON, Dec. 22.—Fancy No. 1 white in cartons, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. Absolutely no call for dark honey this year. Extracted, white, 7½@8c; light amber, 7@7½c. Beeswax, 27c.
BLAKE, SCOTT & LEE.

CINCINNATI, Dec. 26.—The market for comb honey here is becoming a little bare, altho higher prices are not obtainable. Fancy white comb sells for 16c; lower grades do not want to sell at all. Extracted is selling slow; amber for 5½ and higher; fancy white clover brings 8@8½c. Beeswax, 28c.
C. H. W. WEBER.

NEW YORK, Dec. 22.—Fancy white, 15@16c; No. 1 white, 14c; No. 2 white 12@13c; amber, 12c; buckwheat, 10@11c. Extracted in fairly good demand at 7½@8c for white, and 7c for ambers; off grades and Southern in barrels at from 65@75c per gallon, according to quality. Not much demand for extracted buckwheat as yet. Some little selling at 5½@6c. Beeswax firm at 28 cents.
Demand continues good for comb honey; supply fairly good. Extracted in fair demand with enough supply to meet requirements.
HILDRETH & SEGELKEN.

DETROIT, Dec. 22—Fancy white comb, 15@16c; No. 1, 13@14c; dark and amber, 10@12c. Extracted, white, 7½@8c; amber and dark, 6@7c. Beeswax, 26@28c. M. H. HUNT & SON.

SAN FRANCISCO, Dec. 19.—White comb 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber, 6¾@7¼c; amber, 5½@6½c. Beeswax, 26@28c.
Stocks of all descriptions are light, and values are being as a rule well maintained at the quoted range. Firmness is naturally most pronounced on light amber and water white honey, the latter being in very scanty supply.

A HONEY MARKET.—Don't think that your crop is too large or too small to interest us. We have bought and sold five carloads already this season, and want more. We pay spot cash. Address, giving quality, quantity and price,
THOS. C. STANLEY & SON, Fairfield, Ill.

Please mention Bee Journal when writing.

—DO YOU WANT A—
High Grade of Italian Queens
OR A CHOICE STRAWBERRY?
Send for descriptive price-list.
D. J. BLOCHER, Pearl City, Ill.

47A26t Mention the American Bee Journal.

BEES QUEENS Smokers, Sections, Comb Foundation And all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.

We have a Large Stock on hand and can ship promptly.

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WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

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☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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PATENT WIRED COMB FOUNDATION
Has no Sag in Brood-Frames.

Thin Flat-Bottom Foundation
Has no Fishbone in the Surplus Honey.
Being the cleanest is usually worked the quickest of any foundation made.

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Sole Manufacturer,
Sprout Brook, Montgomery Co., N. Y.

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SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	60c	$1.00	$2.25	$4.00
Sweet Clover (yellow)....	$1.50	2.80	6.25	12.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover.....	70c	1.70	3.75	7.00
White Clover.....	90c	1.70	3.75	6.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.
Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
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☞ IF YOU WANT THE

BEE-BOOK

That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his

Bee-Keepers' Guide.

Liberal Discounts to the Trade.

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Shipping-Cases, Root's No-Drip; Five-Gallon Cans for extracted honey, Danz. Cartons for comb honey. Cash or trade for beeswax. Send for catalog. M. H. HUNT & SON, Bell Branch, Mich.

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POUDER'S HONEY-JARS and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. WALTER S. POUDER,
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PATENT WEED PROCESS SHEETING.

Why does it sell so well? ✲✲

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

LANGSTROTH on the HONEY-BEE—Revised
The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted ✲ ✲ ✲

AT ALL TIMES. **CHAS. DADANT & SON,**
Hamilton, Hancock Co., Ill.

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MADE TO ORDER.

Bingham Brass Smokers,

made of sheet-brass which does not rust or burn, it should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.

No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.
Prices: Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

BINGHAM SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address, **T. F. BINGHAM, FARWELL, MICH.**

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Sections==A Bargain.

We have 50,000 3⅝x5x1½ inch plain sections, and as our call for them is light, we will sacrifice them. Prices very low. Write.

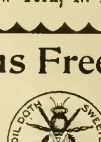
Apiaries—Glen Cove, L.I. **I. J. STRINGHAM, 105 Park Place, New York, N. Y.**

Please mention Bee Journal when writing.

Four Celluloid Queen-Buttons Free

AS A PREMIUM

For sending us ONE NEW SUBSCRIBER to the American Bee Journal for three months with **30 cents**, we will mail you **FOUR** of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge.



This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., JANUARY 17, 1901.

FORTY-FIRST YEAR
No. 3.

WEEKLY

PROF. E. N. EATON,
Analyst of the Illinois Pure Food Commission,
Chicago, Ill.

YELLOW OR WHITE

Sweet Clover Seed

Free as a Premium

For Sending us One New Subscriber for a Year.

There has been so much written about both the white and the yellow variety of sweet clover, that we will simply say here that if one of our present regular subscribers will send us $1 with a new name for this year, we will mail, postpaid, to the one sending the new name and the dollar, either **one pound** of yellow sweet clover seed, or **two** pounds of the white sweet clover. This is a good chance to get a start of both kinds of these honey clovers. Better send two new subscribers (with $2.00) and get the three pounds of seed. Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO, ILL.

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Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

ALFALFA HONEY.....

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough the Alfalfa extracted.

BASSWOOD HONEY.....

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms in Wisconsin. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Either Alfalfa or Basswood Honey:

A sample of either, by mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. The cans are boxt. This is all

ABSOLUTELY PURE BEES' HONEY,

The finest of their kinds produced in this country.

Read Dr. Miller's Testimony on Alfalfa Honey:

I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more markt flavor, according to my taste. C. C. MILLER.

McHenry Co., Ill.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

Address,

GEORGE W. YORK & CO., 118 Michigan St., Chicago, Ill.

Weekly Budget

MR. J. A. GOLDEN has an advertisement on page 46, offering his stock of Golden combination Hives for sale. Better write him at once if you want to try his system of producing comb honey.

JOHN H. MARTIN, better known as Rambler, has been keeping bees for some time in Fresno Co., Calif. He is now in Los Angeles county again, and wrote us as follows, Dec. 29th:

"I have returned to the south after a successful season in central California. There was a grand rain here about Nov. 20th, but since then the skies have been clear. Beemen who smiled broadly then now look sober. It is time for another rain, and if it does not come soon there will be a lot of blue beekeepers. It is the old, old story—the bee-men here never know 'where they are at' respecting a honey season till well towards spring. After nine months absence from my old apiaries I find them flourishing, and the bees are anxious for a good honey season. And for which we all devoutly hope."

WALTER S. POUDER, of Indianapolis, Ind., writing us Jan. 4th, had this to say:

"I regret exceedingly that you have been so unfortunate as to have a fire in your establishment. You have my sympathy, and I hope the loss and inconvenience will be less than expected. I have often wondered what I would do in case of fire here, but in your case, with the Bee Journal on your hands, I know the situation must be very serious and troublesome.

"I have had no bill for my last quarter's advertising, but think the little amount might do you more good right now than later. Find check enclosed."

Thank you, Mr. Pounder, for your kind words of sympathy for us in our "flood" of troubles. We hope you may never be visited as we were; but, as the saying is, "a bad beginning makes a good ending," we may *end* the 20th century all right—tho we will not likely see its end.

O. L. HERSHISER, superintendent of the Pan-American Exposition, wrote us as follows Jan. 8th:

MY DEAR MR. YORK:—A letter from E. R. Root has informed me of your loss, by fire, of the offices of the American Bee Journal. No particulars were stated, but I trust you had insurance protection, and that the only loss to the readers of the American Bee Journal will be some necessary delay. I regret the inconvenience you will be occasioned, but I have no doubt of the future of your excellent publication, even against the scourge of fire. It would be quite un-Chicago-like for anything in your enterprising city to be subdued by that or any other calamity. The enterprise of the American Bee Journal is well shown from the fact that, altho the office was burned on the evening of Jan. 1st, as I am informed, we had the initial number of the new century before learning of the disaster.

Wishing the American Bee Journal a prosperous century in the hands of its present proprietor, and his successors, believe me,

Yours very truly,
OREL L. HERSHISER.

As noted in last week's Bee Journal, our loss was occasioned by water, that was thrown on the fire which was above us. It was almost a miracle that we were not burned out also.

We wish to thank Mr. Hershiser for his kind letter.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., JANUARY 17, 1901. No. 3.

Editorial.

Yellow Wax and Slow Cooling is a subject which receives considerable attention in the first number of the American Bee-Keeper for the new century. Editor Hill seems to understand that this journal teaches that any sample of wax, no matter what its color, and no matter what may have caused that color, may be changed into bright yellow wax by simply cooling it slowly. This journal has never pretended to claim for slow cooling anything more than that it allowed the foreign particles time to settle. The average beginner will have a cake of wax that has been rapidly cooled, and so of dark color because of its impurities. If nothing has been done to affect the color of the wax exeept the rapid cooling, slow cooling will clarify it. (Of course, it may be made still brighter by acid.) That's the whole thing in a nutshell. The editor of the American Bee-Keeper has emphasized the necessity for slow cooling, and nothing that he publishes in his last number militates with the teachings intended to be given here. It is a regrettable circumstance if lack of control of the English language has allowed any meaning to be given that was not intended.

The Long-Tongue-Short-Tube problem is still on. J. Warren Arthur, in Gleanings in Bee-Culture, reports advance at the red-clover end. The interesting details are as follows:

In 1898 I noticed my bees going and coming in one direction, namely, southwest. Thinking to find what they were working on, I followed in that direction, and found very few bees at work on or near the ground, and no timber of any consequence on which they could work. About a mile and a half from home I found a clover-field fairly swarming with bees, while a clover-field of 30 or more acres one side of it, not 50 yards apart, and not more than 40 feet from the remainder of my lot of 30 hives, had very few bees on it. Some two or three days after, I noticed the bees stopping work about noon, and taking my wheel I rode around and found my clover-field laid low. When the second crop came in bloom I again noticed the bees in particular, and found them working on this same field, altho the field across the road from my home contained many more bees than on the first crop. This fact alone caused me to decide that I wanted seed from that particular field. When the neighbor hulled his seed, by offering a few cents above the market price, I obtained it, but had to take the entire crop to get any. I managed to sell some of it to some of my neighbors, and some more to my father, who lives about ten miles southwest of me.

The crop of seed sown near me in 1899 was almost a failure in catching, and what did catch was winter-killed last winter, while some fair fields were left over at my father's.

My prosects for honey last spring were anything but bright for 30 colonies, so I decided to divide up territory. I took five of my weaker colonies and one strong one to my father's; four were taken to a place where there were a fair number of basswood trees, altho badly cut by the canker-worm. Well, this fall I had 24 colonies to feed, nearly all being at starvation's door.

My father said when he cut his hay he never saw bees thicker on a buckwheat patch than on his clover. I made a trip to see how they were doing, and had the pleasure (?) of helping him haul up his hay; but when that clover-field bloomed for seed, those bees filled up everything tight; and I was surprised, on going down one day, to find them so. Now, I feel that *that* clover had something to do with it. But the weakest colony taken down there built up the strongest, yet could not have been fuller of honey than the other five.

It has been suggested in Gleanings that wherever there were bees with tongues long enough to work on red clover there would be seed matured on the *first crop*. The possibilities that lie in this suggestion are worth considering. It is well known that seed from red clover is secured only from the second crop, altho the reason therefor is not so well known. It is a very simple one. The fertilization of red-clover blossoms is effected mainly by bumble-bees. Unlike our hive-bees, bumble-bees start in the spring, not with several thousand bees in a nest, but with a single bee. So when the red clover first blooms, bumble-bees are so few that not enough blossoms are fertilized to make a crop of seed worth harvesting. By the time the second crop is on, the number of bumble-bees has multiplied many times, and a full crop of seed is secured.

Now, if hive-bees are secured with tongues long enough to work on red clover, it is easy to believe that they may fertilize the first crop. From this first crop it will be easier to obtain seed of the short-tube kind. A little explanation will make this clear. In the second crop of red clover there will be tubes of various lengths. Hive-bees may work on the shortest of these, and bumble-bees on the rest. So it will happen that the seed from this crop will produce blossoms having tubes of different lengths, with perhaps a constant tendency to revert to the original and longer type. Only by difficult and careful selection under such circumstances could a fixt type of short-tube clover be secured.

Now, instead of waiting for the second crop, let full attention be given to securing seed from the first crop. The hive-bees will fertilize the blossoms with short tubes, and those with long tubes will for the most part be unfertilized. So whatever seed is secured from that first crop will be of the short-tube kind. The next year it will produce red clover with blossoms, all of which can be utilized by the hive-bees, and by saving seed each year from the first crop the long tubes will be automatically weeded out.

Tin Cans vs. Barrels for Honey.—We think most of our readers are aware that we strongly favor tin cans for holding honey. And we have not come to this conclusion hastily, but after considerable experience with handling honey in both kinds of packages. We are free to say that we don't care to handle any more honey in barrels, no matter what the grade of honey is.

Some of our good friends in Wisconsin—which, by the way, is a great barrel State—enjoy opposing our stand on the can, of course doing so in a good-natured way. But it is our turn now to refer them to the following, by Elias Fox, of Wisconsin, which appeared in a recent issue of Gleanings in Bee-Culture:

I can truly indorse all that was said in favor of tin cans as against barrels for the shipment of honey, at the Chicago convention. I have had quite a little experience along this line myself, and have decided never to use a wooden package for extracted honey again. I began putting it up in wooden packages with wooden hoops; and I found by letting them stand a short time the hoops would loosen up, and, unless watcht very closely, and hoops tightened, there would soon be a leak, no matter how good the cooperage; and, even in shipping, the hoops would loosen.

Then I had my cooper use iron hoops, and my experience was the same, by letting the packages stand for any length of time, notwithstanding we selected the choicest and most thoroly seasoned staves and the cooperage was perfect; and the packages were made up a year before using, and kept in a dry place, and hoops retightened, and filled dry. If there was a piece of heading a little cross-grained the honey would ooze thru the pores, and even thru the end of the staves, and almost invisible knots, no larger than a pin-head. Of course, so far as the loss was concerned from leaking, it was nominal. But if you count the amount of honey absorbed by the wood, and the leakage together, it would equal, if not overbalance, the difference in the cost of the two packages.

Then, again, think of the nasty, sticky packages to handle, and hands and clothes daubed with it; and when barrels are in this condition, and rolled along, as advocated, dust and dirt will stick to the leaking spots, and make an unsightly package, aside from smearing depot platforms and car-floors, to attract bees, flies, etc.

The barrel side of the debate say if a case is dropt, the solder will loosen, and a leak would result, and that the cans are too unwieldy and too heavy to handle. A man should not be so awkward as to drop a package. But suppose he is, and the package should be a barrel. About the time you had it up to the wagon-box, and the head should burst out, which would leak the worse? As to the cans being a little too heavy, I would say they are; yet I have moved, alone, 5,000 pounds in two-can cases in a day; had ten rods to carry it to the

wagon, two miles to haul it, and piled it up five cases high, and my consolation paid me for the extra work in *knowing* there was not a drop of leakage, and no hoops to loosen while I slept.

We can not be *too* neat in handling and marketing extracted honey. So I say, give me new 60-pound cans, and I will guarantee my honey to reach *any* market in such a condition that I shall not be ashamed of it, and no loss from leakage or absorbing. If we want a *cheaper* package for dark honey, there are plenty of second-hand cans and cases to be bought as cheaply as barrels.

We welcome Mr. Fox to the tin-can side of the debate; and if he will only be present at the Madison meeting of the Wisconsin State Bee-Keepers' Association, on Feb. 4th and 5th, next month, we (Mr. Fox, Mr. Hatch and ourselves) will simply "do up" those wooden-headed-barrel chaps, like Messrs. Pickard, Wilson, McNay, and others. Of course, we'll treat them square(can)ly, but will see that they don't roll any of their honey-soakt and leaky-dauby wooden barrels over us! We'll just honey-*can* those boys so that they'll *keep* like any other kind of canned goods.

The Case of Utter vs. Utter.—As mentioned in a former number, we give this week something further about the celebrated peach-bee case of Utter vs. Utter, which came to final trial at Goshen, N. Y., Dec. 17, 18 and 19, 1900. Gleanings in Bee-Culture contains quite a full report of the trial, from which we take the following, written by Editor E. R. Root:

The case was a peculiarly hard-fought one; and after 25 or 30 witnesses had been examined on both sides the jury brought in a verdict, after being out about ten minutes, for the defendant, bee-man Utter.

I need not say that the National Bee-Keepers' Association took an active part in this case—one that seemed to involve the very life of bee-keeping in New York. It pledged $100 to Bacon & Merritt, two of the leading attorneys of Orange County—lawyers who have been retained in some of the most important cases that have been tried in that vicinity.

There were many laughable incidents, and some queer statements on the part of the witnesses for the plaintiff, as to how the bees did and could puncture fruit; how they used their "horns" (antennæ) to make holes, etc. In the lower court, several of the witnesses, I am told, testified that the bees got up "on their hind legs" and *stung* the fruit; went off and left the peach, and stung others; that a rotten spot at the points pierced by the stings would soon set in, and this would be subsequently visited by the bees. In the higher court, that same set of witnesses testified that the bees punctured the fruit with the "head end," and not with the "business" end. It was evident that the prosecution had realized the utter absurdity of the former statement. The plaintiff, fruit-man Utter, while on the stand, went on to describe how the bee moved its head first to one side and then the other, and raised up on its legs and flopt its wings; that after this performance he found there was a hole. This was corroborated with some variation by his two sons. It was amusing to see the plaintiff try to mimic the bee, on the witness-stand, as he swayed his head from one side to the other, raised up on his legs, and flopt his arms. His motions were so Utterly ridiculous, and so contrary to the real acts and movements of bees, that every one in the court-room, including the jury, laught, and laught heartily. I sincerely believe that, if the jury had gone out at that supreme moment on the evidence then presented, we should have had a verdict in our favor, even without one word of rebuttal testimony.

Another witness, Mrs. W. H. Utter, the wife of the plaintiff, testified that the bees would alight on the fruit, and then with their "horns" make holes in the peaches. She stated that there were eight holes in one peach she examined, and that three bees were on it; that, after they left, there were three more holes, or eleven in all. Mr. Bacon, one of our attorneys, in his cross-examination, got at the facts something in this way:

"You say, Mrs. Utter, that there were three holes after three bees had visited that peach?"

"Yes."

"You say that the bees made three holes with their *horns?*"

"Yes, sir."

"Where were these horns located?"

"On the top of the head."

"Two prongs like this?" said he, putting his two hands over his head.

"Yes."

"And they took those two horns and dug them right down into the peach, did they?"

"Yes."

"Well, now, Mrs. Utter, will you tell the jury how three bees, each with two horns, could make only *three* holes? Shouldn't there have been *six* holes?"

"Wy-ah, wy-ah, wy-ah; they took those two horns and put them together and then poked them into the peach."

"O—h!" said Mr. Bacon, with a wise look.

At this there was an uproar of laughter. When the jury and the audience had subsided, Mr. Bacon continued:

"You are sure the bees made these holes with their horns?"

"Yes."

"Well, don't you know that those are antennæ, or feelers?"

Several had talkt about the so-called "horns," and how bees make holes with the horns; but after the learned counsel had shown the *Utter* absurdity of the horn theory, then the prosecution began to talk about the "jaws;" and some of the witnesses told how the bees ran their "bills" down into the peach—meaning, of course, the tongue. But the bill theory was untenable, and the rest of the testimony was then confined to the jaws, which, it was averred, were powerful enough to puncture the skin of peaches. The prosecution claimed, among other things, that after the bees had punctured the peaches the juice ran down on the limbs, causing them to wither and dry up. In the former trial it was maintained that the trees were utterly destroyed; and even in this trial the Peach Utter at first talkt of the destruction of trees, and claimed damage for the loss of trees and fruit. The defense, on the other side, showed by two good witnesses that the plaintiff, Mr. Utter, the fruit-man, had said to each of the affiants, that these trees were going to die, and he would have to pull them up, and this was *before* the bees are alleged to have visited the fruit.

I do not need to rehearse here the testimony that was introduced by expert bee-keepers, tho I can not omit reference to the testimony of Prof. Frank Benton, Assistant Entomologist, Department of Agriculture, Washington, D. C. Prof. Benton had been sent by the National Bee-Keepers' Association to render expert testimony on the mouth parts of the bees, and he certainly was the star witness for the defense. He showed by live and dead specimens of bees, and also by charts which he had brought for the occasion, that in his opinion it was a physical impossibility for the bees to puncture fruit with their mandibles or jaws; that the jaws of bees were very different from those of wasps and other insects having cutting edges or teeth. He chloroformed some live bees, and then past them around to the jury, after our attorneys had obtained consent from the court to do so. He showed them that the delicate tongue, so far from being a "bill" which could puncture a sound peach, was more like a camel's-hair brush; that it would be absurd to suppose that they would run this thru the skin of any substance. He admitted that bees could tear by picking away at fiber, but denied the possibility of their *cutting* the skin of any fruit. The jaws, or mandibles, had smooth rounding edges, which, he showed by charts, were different in this respect from the jaws of a wasp, that has cutting edges or teeth; that the mandibles were made for forming plastic substances like wax; and even then the wax had to be brought to a temperature of about 90 degrees before such work could be performed.

The professor's testimony, so far from bearing evidence of prejudice, was what might be termed in legal phraseology, "candied," the kind that weighs with a jury. There was no evasion, and no attempt on his part to make *all* of his testimony in favor of the bees. When askt whether he regarded the experiment of confining a few bees in a box with a peach as worth anything to prove that bees would not or could not puncture sound fruit, he said that, in his opinion, it did not count for much, as he doubted whether they would even help themselves to honey under like circumstances.

At the conclusion of the testimony for the defense, the prosecution called Peach Utter back to the stand, and askt him whether the trees, the fruit of which the bees were alleged to have stung, causing the limbs to die, were alive and in good order. He said yes, in very good order. This testimony was produced, probably, to show that the trees did not have the "yellows" or "wet feet," as was claimed by the defense. But Mr. Bacon, in his final plea before the jury, called attention to the fact that the plaintiff *first* testified that his trees had been *destroyed*, and that now they were *good and sound:* and yet he desired compensation for the trees which he at first said were *destroyed!* Mr. Bacon made a strong plea, picking up all the important threads of evidence, and hurling them at the jury in a most forcible manner.

The attorney for the plaintiff, while he did not attack the testimony of Mr. Benton, turned his guns upon A. I. Root, shaking his fist in his face, and calling him the great "poo-bah" of the West. A. I. R. did not appear to relish the compliment; but the rest of us enjoyed the joke immensely, tho there wasn't one of us who knew what "poo-bah" meant. We consoled A. I. by saying that it signified something *big*, and told him not to feel badly.

Of course, no one could tell absolutely what the jury would do: but it seemed to be made up, if I could judge by their faces, of a lot of intelligent, thinking men.

The judge, in his charge, rehearst very carefully and impartially the full case, and then said that the jury, in order to render a verdict for the plaintiff, must find that the bees of the defendant, and *his bees alone*, were the trespassers; and that it (the jury) should further give very careful consideration to expert testimony. The jury then retired, and in about ten minutes returned with a verdict of "no cause for action."

The National Bee-Keepers' Association exerted a powerful influence in the case, in that it enabled Mr. Utter, the bee-man, to employ the best legal talent, and, in addition, furnish expert testimony on the bee-side of the question, so that an unprejudiced jury, seeing and knowing the facts, would render a verdict accordingly.

This case was a hard-fought one from beginning to end. There was no lack of legal counsel on either side, and no lack of witnesses; but, thanks to the Association, we were able to show that the evidence adduced by the plaintiff was, for the most part, to put a most charitable construction on it, founded on misapprehenson, ignorance, and prejudice. There is no doubt that some witnesses for the fruit-man actually believed that the bees did puncture sound fruit with their "horns or bills." If they did so believe, and if they heard our evidence, their belief must have been most severely shaken before they went away.

The Delay and Interruption to our business, occasioned Jan. 1st by the water poured on the fire above us, and which landed on our stock, will be over by the time our readers receive this copy of the Bee Journal. By another week we hope to know just what and how much of the bee-supply stock was damaged by water. Some of it is a total loss, some slightly damaged, and some still in good condition by having been well protected with tarpaulin covers.

We are not anxious to have another such a dampener put on our place of business. While it thoroly "settles the dust" it also quite as thoroly unsettles things too much. However, trials and tribulations are the common lot of man and perhaps we are getting only our share.

The National Bee-Keepers' Association.

General Manager Secor's 4th annual report was sent to members of the Association last month with a voting-blank for the election of three directors and general manager. Mr. H. F. Moore and the Editor of the American Bee Journal were selected as the committee to receive and count the ballots. The result will likely be known in time for announcement next week.

In order that General Manager Secor's report may have a wider circulation we give it here:

FOURTH ANNUAL REPORT OF THE GENERAL MANAGER OF THE NATIONAL BEE-KEEPERS' ASSOCIATION.

FOREST CITY, IOWA, Dec. 11, 1900.

Fellow Members:—At the last annual election of general manager and directors, Dec., 1899, the question of uniting the two National societies was submitted to the members of both organizations, and the new constitution, which slightly changed the name of our society, was ratified and endorst by a large majority of both old societies. It is therefore gratifying to report that what some thought to be two rival associations with similar aims have united, and the increast interest augurs well for the now-named "National Bee-Keepers' Association."

There is no doubt about the usefulness of such an organization, if properly managed. The question of its efficiency under the present management is pertinent, and every member may rightfully express his confidence or his criticism by his vote, or in any other proper way. The present manager does not pretend that his judgment is infallible or that the efficiency of the organization can not be increast by other management than his own. But this much he does claim—to have honestly and faithfully discharged the duties imposed to the best of his abilily.

The board of directors and all other officers of the Association have heartily co-operated with the general manager in the business in hand, and therefore entire harmony prevails, so far as this writer is informed.

The kind and appreciative words received from time to time from members of the Association and friends generally are prized beyond compare. They are like sweet flowers found in desert places where one expects nothing but the hard thorns of bitter opposition. It is easy to labor when one is cheered on by encouraging words.

I have not in every instance been able to help those who have appealed to me. Some cases have been too hard. For example, it is not possible to collect a bad debt if the debtor is bankrupt and execution-proof, with no disposition to pay. Dishonest honey-dealers will sometimes evade their debts and escape punishment just as a thieving bank-teller will occasionally squander the savings of depositors and go scot-free. The suggestion is here emphasized that it is better to look up the financial rating of every man who buys honey, and the honesty of every commission man, before making a consignment, rather than try to recover a bad debt hastily accepted.

THE CASE OF UTTER VS. UTTER.

Several months ago, in the County of Orange, New York, two brothers fell out, the one a grower of peaches and the other a bee-keeper and member of this Association. The peach-growing Utter sued the bee-keeping Utter before a Justice of the Peace, and askt for damages done to plaintiff's peach-orchard by defendant's bees. The case was tried, and after a good deal of damaging evidence was introduced by the plaintiff, and astounding revelations as to what bees could do and did to those peaches were heard, the learned judge decided against the bee-keeper and assest him $25 and costs. While there was a lack of *competent* evidence that the bees were guilty as charged, it seems that the fruit-growers had the sympathy of the court.

The case was sensationally written up by reporters and the matter was given wide circulation thru many papers. The coloring given to it was generally against the bee-keepers.

The Rural New Yorker, however, used its influence to show that bees are not guilty of injuring sound fruit. But a letter from its editor, besides communication from many bee-keepers, convinced me of the alarm that was felt if this decision were left unchallenged. If that case could be quoted in the future it was feared that other bee-keepers might suffer. The general manager, therefore, with the concurrent judgment of a majority of the board of directors, ordered the case appealed to the county court, and it is proposed there to try the case over again on its merits, with enough expert witnesses to get the facts before the jury.

As the brother who was the defendant in this case is a poor man, and, as in the judgment of the general manager, the matter was one which had to be fought out sooner or later in the interest of truth and justice, he pledged $100 toward a favorable verdict. The Association will be obliged also to pay the expenses of several expert witnesses while attending the trial. The results can not be ascertained in time to go into this report.

BEES AND HORTICULTURE.

During the past year the general manager has compiled and publisht a twelve-page pamphlet showing the value of bees as pollenizers and fruit-producers. This was thought to be necessary because there is so much ignorance on the part of orchardists relating to the work done by insects in their interests. Spraying is becoming more and more common. When to spray and what preparations to use are shown, quoting competent authorities. Laws of several of the States in relation to spraying are also quoted.

This pamphlet has been forwarded to several members who feared trouble from neighbors who threatened to spray with poisonous substances while trees were in full bloom, and it is hoped and believed that this timely publication has had some educating influence, because no reports have come to this office of damage done to bees by spraying where it was distributed. It has always been my policy to try to prevent law suits rather than to win them. If by educating the people we can make good neighbors—neighbors who respect each other's rights—it is better than winning victories at the end of bitter legal battles.

The above pamphlet was sent to several agricultural and horticultural journals and in every instance was favorably noticed.

THE FIGHT FOR PURE HONEY IN 1899.

It will be remembered that the Association put up a fight against adulterated honey in Chicago last year. A statement of this matter was in my last annual report. While the outcome of the suit was not satisfactory to us at the time, later developments seem to point to the fact that it had a wholesome influence. The following extracts from Gleanings of Sept. 15, 1900, may be of sufficient interest to warrant copying here. It is as follows:

"At the Chicago convention we had the pleasure of hearing Prof. E. N. Eaton, chemist, and Commissioner A. H. Jones, of the Illinois State Pure-Food Commission. Both of the gentlemen exprest themselves as being highly pleased to meet so representative a body of bee-keepers assembled for the purpose of discussing ways and means for putting down the adulteration of honey. They told of the work they had already begun; how they had compelled the dealers thruout Chicago (the very hotbed of adulteration only a few months ago) to sell all food products under their legitimate and real names. Samples of honey mixtures were brought in, showing in some cases the word 'pure'? had been crost out by the dealer, and the word 'imitation' in plain letters had been written in its place to conform to a recent law enacted at a session of their last legislature. All kinds of honey mixtures, imitation honey, glucosed honeys, if they are sold at all, have either been relabeled or else the word 'pure' has been scratcht out and the word 'imitation' in bold letters put in its stead.

"It will be remembered that the United States Bee-Keepers' Association, under the direction of General Manager Secor, and thru the personal efforts of George W. York and Herman F. Moore, (a well-known honey-man and an attorney), gathered up, a year or so ago, a number of samples of bogus honey. These were placed before the city prosecutor, and certain suits were begun against the vendors of the samples. It created quite a furore among the dealers, for the Chicago papers were full of the matter for the time being; and altho the first suit resulted in a verdict of "not guilty" for one of the parties on a queer sort of technicality before the justice, the result of this prosecution, while apparently a failure, was a far greater success than the Association could have hoped for in twenty years. How? Both Prof. Eaton and Commissioner Jones stated before the convention that the suits begun by the United States Bee-keepers' Association made such a stir in the city that it helpt in no small degree toward the enactment of the new law now in force *and being enforced*."

I wish to acknowledge the hearty co-operation of the Division of Entomology, Department of Agriculture. Mr. Frank Benton, assistant in the Division, has rendered valuable service by replying ably to enquiries directed to the

Department on the subjects relating to bees and fruits, and has put into my hands copies of correspondence in several instances where litigation was threatened, but which was averted by prompt and prudent action.

A CASE AT EVANSVILLE, INDIANA, was reported to the entomological Division stating that the city authorities proposed to pass an ordinance prohibiting the keeping of bees within the city limits and for *four miles outside*. The matter was referred to me, and such literature as was available was forwarded to the attorneys for the bee-keepers, and they were also referred to McLain's experiments. No doubt the matter was dropt by the city, as nothing further was heard of it.

Several other cases have been reported to me during the past year, of cities and towns threatening to rule the bees out, but copies of the celebrated Arkadelphia decision sent, no doubt had a restraining influence.

The general manager has written more than a hundred official letters during the year, besides hectograph copies sent the directors at different times, and besides the regular routine of official notifications and receipts.

Many of these letters have been lengthy legal opinions in answer to members who have been threatened with lawsuits.

The Association sent Mr. Abbott as delegate to the Third annual convention of the National Pure Food and Drug Congress, which convened in the city of Washington, March 7, 1900, and paid a small portion of his expenses. The work of this congress is in the interest of purity and honesty of all foods and medicines consumed by man. It is laboring for the enactment of laws to protect innocent purchasers from deceit and fraud. The board of directors believe such efforts worthy of aid.

THE HAKES ADULTERATED-HONEY TRIAL.

January 22, 1900, Secretary Dr. A. B. Mason, at my request, attended and assisted in the trial of a groceryman at Jackson, Mich., who had been arrested by the State Food Inspector on the charge of selling adulterated honey. The suit was in the circuit court of Jackson county, and it appears to have proven beyond doubt that the honey offered for sale and sold by Mr. Hakes, was largely adulterated with glucose syrup. The court instructed the jury to return a verdict of guilty, which was done. I have no doubt that this trial will have a wholesome effect in Michigan and in all other States where pure-food laws are in force.

If impure extracted honey can be driven from the market, and consumers led to believe that what they buy as honey is really the product of the hive-bee, a better price may be realized by the producer of a first-class article. It may be well to state here that *quality* as well as purity is essential. No *unripe* honey ought ever to be offered for sale.

In conclusion I wish to admonish our members to keep out of trouble if possible. Don't get the idea that this Association can do everything. Bee-keepers must keep within the law if they wish to have the protection of law. Bees may become trespassers like other domestic animals, and bee-keepers may be liable for damages done by bees in some instances. It is therefore wise to avoid any conflict with near neighbors which your care can prevent. Infuriated bees in a thickly settled neighborhood may bring legal contests which this Association can not win. The Golden Rule is the highest law. Fraternally yours,

EUGENE SECOR, *General Manager*.

Mr. Secor closes his report with a financial statement showing a balance of cash on hand of $521.15.

The Association now numbers 560. It is unfortunate that so large a number of bee-keepers have not yet discovered the personal benefit and security there may be for them in uniting with the National Bee-Keepers' Association, yet it is pleasant to know how much has been already accomplisht by organization, and the present number of members gives hope that it may continue to increase. There ought to be a large gain in membership with the beginning of the new century, and now is a good time to act.

The American Fruit and Vegetable Journal is just what its name indicates. Tells all about growing fruits and vegetables. It is a fine monthly, at 50 cents a year. We can mail you a free sample copy of it, if you ask for it. We club it with the American Bee Journal—both for $1.10.

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 24.)

Pres. Root—We are very fortunate in having Prof. Eaton of the Pure Food Commission of Illinois with us, and Mr. Moore, who knows him well, I have askt to introduce him.

Mr. Moore—Mr. President, ladies and gentlemen of the National Bee-Keepers' Association, it gives me great pleasure to introduce to you Prof. Edward N. Eaton, who was formerly chemist to the Minnesota Pure Food Commission. He has been a member of the Chicago Bee-Keepers'Association, and has been very much interested in our work, and is really one of us. He used to analyze samples for us, and the time came when the Illinois State Legislature organized a Pure Food Commission. Under this Commission there must be a chemist appointed. The Chicago Bee-Keepers' Association recommended Prof. Eaton for this appointment. He is now the analyst of the Illinois Pure Food Commission, and I present him to you.

Prof. Eaton—I thank Mr. Moore for his very kind introduction, and the kind words he has to say, and I appreciate them fully. I didn't expect to take up any of your time this afternoon, I didn't expect to make any sort of a speech, simply express to you the gratification I feel in being able to attend this convention, and the pleasure I always have in attending bee-keepers' conventions. This is the first of your national conventions I have ever had the pleasure of attending—I hope it will not be the last. I also wish to express regret that Commissioner A. H. Jones, the Illinois Pure Food Commissioner, is not able to meet with you and address you this afternoon. He has been out of the city some little time on business connected with the Commission and returned this noon. I expected to see him this afternoon and invite him to come this evening, and perhaps he will be here. The members of the Chicago Association know how much interest he takes in the question of pure food, especially in regard to adulteration of honey. Before he had accepted the duties of the office he came before the Chicago Association and outlined to them his policy in regard to preventing this fraud and deception in the sale of honey, and that policy he has continued, and to-day there are but very few adulterated goods upon this market. Of course this is not the season for honey, but we expect to make a more vigorous crusade in the winter months when honey becomes a prominent product on the market. Adulderation has had a long and prosperous reign in this State. Mr. Moore referred to the work of the Chicago Association in trying to prevent the sale of fraudulent honey before the commission was started. We did not succeed in making any convictions. However, we did succeed in purifying the market to a great extent of the adulterated goods in Chicago, but not so in the small cities of the State. About six months ago, I think it was, we got a large number of samples from Aurora and from Rockford, in this State, and of the samples in Aurora, I believe, almost half of them proved to be adulterated. In Rockford the situation was not quite so bad. This was before the law went into effect, which was July 1st. As I said, we have not done much in the line of honey since July 1st. I have examined a few samples, and what I examined were pure honey. Heretofore the manufacturers of adulterated honey that has been put upon the market in the past few years have come to me and said that they will hereafter comply with the pure-food laws and sell as the State requires, with the name "ADULTERATED HONEY" in large type on the front of the label. When the situation comes to that, it will not be so bad for the bee-keepers. I brought along a couple of samples of goods that came in, within the last week, which shows to you another phase of adulteration. The goods are not honey, don't pretend exactly to be honey, but they use the word honey in describing the adulteration; the word honey is another name, and the manufacturers of

these goods are only too willing to use that to assist them in selling the goods. One of them is called, I believe, "Malt Honey." There is no honey in the preparation at all. There is another name for it; they don't care to call it by that name; they would rather call it by the name of "honey." That company has been askt to leave off the name honey from their goods. The other sample is a syrup that is labeled "Honey Syrup." There is no honey in that sample, either, and that was taken by one of our regular inspectors out over the State, and since the law went into effect, the word "Honey" has been scratcht off. We hope to prevent the use of the word honey altogether on the goods which do not contain honey, unless there is some honey in the preparation, or unless the word "Adulterated" accompanies the word honey. Of course, they can use the word honey if the word "adulterated" appears in large letters equally as prominent.

Mr. Green—I have seen honey on the market which was labeled "Imitation Honey," with the word "imitation" very small type. Does that comply with the law?

Prof. Eaton—No, sir; that does not comply with the law. The law requires that the word "adulterated" shall be on in large and conspicuous type. I have noticed that myself, but the company that has been putting out the most of it in this State intends to use the word adulterated. This [indicating] shows you the way it should not be, but it gives you an idea of the way the law requires it to be labeled "Adulterated Honey." You will notice they put this [indicating] in red letters on a red background as they don't show up as well as they ought to. Hereafter they have agreed to put on better letters. This is the label the gentleman referred to, probably, where the word "imitation" occurs in small letters on one corner and the word "Honey" in prominent letters; that is illegal. It will be hard to prevent, I presume, the use of the word honey in the way I have spoken of, because it will be impossible to apply the same principle to other goods. For instance, selling coffee, where the word "coffee" is used on the can; that word is so commonly used and there is so little fraud in it, perhaps there is no great objection to its use. A little more objectionable, perhaps, are the words "Fruit Cocoa" which some of them are using. I am very much obliged to you for your kindness. [Applause.]

Mr. Abbott—I want to call attention to the statement on the label. I want these bee-keepers to see how people trade on their reputation, and the cheek and gall of it. This reads: "This preparation is free from the deleterious properties of this and similar sweets,"—free from the deleterious properties, it says, of honey. I wish some of you would tell us what the deleterious properties of honey are. Think of a firm sending out an article like that and saying it is free from the deleterious properties of honey! If there is anything on God's earth that honey would hurt, I would like to see the thing.

Pres. Root—It seems to me the world is moving when the time comes in the State of Illinois, and perhaps in Chicago, that they have come to the point they are scratching out the word "honey" when it is obviously on a can of bogus stuff. We are making progress, whether the National Bee-Keepers' Association has anything to do with it; it may have had some little influence.

Prof. Eaton—It had a good deal.

Pres. Root—It is encouraging to think we have done a good deal. I would like to have that thing photographt, that word "honey" being crost out, compelling them to sell goods under their own names. The committee on resolutions will now report.

REPORT OF THE COMMITTEE ON RESOLUTIONS.

Resolved, That this Association urge upon the Congress of the United States the importance of enacting into a law the House Bill known as the Brosius Pure Food Bill; that we would impress upon the individual bee-keepers of the United States the importance of addressing a communication to their Senators and Representatives, asking them to give their support to this bill.

Resolved, That the thanks of this Association are due, and are hereby heartily tendered, to the Chicago Bee-Keepers' Association for its zealous and successful efforts to furnish us accommodations and music for the session of our convention.

Resolved, That the president appoint a committee of three on legislation, looking to the securing of uniform laws thruout the honey-producing States, touching such matters as are of interest to bee-keepers, such as the eradication and prevention of contagious diseases of bees, and the prohibition and punishment of adulteration of honey, and the injurious spraying of bloom visited by bees.

OREL L. HERSHISER,
EMERSON T. ABBOTT, } *Committee.*
R. L. TAYLOR,

The resolutions were adopted unanimously.

Mr. York—I would like to move that this body extend an invitation to Commissioner Jones of the Pure Food Commission to attend our session to-night, and Mr. Moore be delegated to notify him, and come with him.

The motion was unanimously carried.

Mr. Burnett—I understand a communication came from Dr. Miller, explaining that his absence from this convention is caused by his sickness, and death in the family. I move you a telegram be sent acknowledging his letter, and sending the regrets of this convention and the hope for his speedy recovery.

The motion was carried unanimously.

Mr. Benton—I want to bring before this body a question which will perhaps require the president to step down from the chair a moment, and may I ask Dr. Mason to take it? He ought to have done so last night. I proposed last evening a vote of thanks for him, for what he has done in providing such fine stereopticon views and also his brother, Huber Root, who also assisted him. Mr. Root was so modest last night he would not put it, and Dr. Mason was so deaf he could not hear, so I now move that the thanks of this Association be tendered the President, Ernest Root, and his brother, Huber Root, for the splendid entertainment they have furnisht us in showing the stereopticon views that we have had.

The motion was seconded and unanimously adopted.

Dr. Mason—Mr. President, I am a little bit slow on resolution matters, but I want to have the Committee on Resolutions put in one thanking the Chicago Association for their splendid effort in the direction of doing away with the adulteration of honey in Chicago. Some of us know they have been in dead earnest and thoroly at work in this respect, and I offer that as a resolution, to go with the others.

Pres. Root—Have you one to offer now?

Dr. Mason—Yes.

Resolved, That this Association thank the Chicago Bee-Keepers' Association for the splendid effort it has made and congratulate it on the splendid success it has met with in fighting the adulteration of honey in Chicago.

The resolution was adopted unanimously.

Continued next week.)

Contributed Articles.

Double vs. Single Walled Hives—A Comparison.

BY J. M. RANKIN.

THE question of double and single walled hives has been discust pro and con for many years, and there have been strong arguments on both sides. To determine for my own satisfaction the value of protection from the direct rays of the sun during the honey-flow, the following observation was made:

July 7, 1900, five 8-frame dovetailed chaff-hives and five 8-frame single-walled dovetailed hives were watcht. The entrances on all the hives were ⅞x12 inches and all were fitted with one super each. The single-walled hives were fitted with a flat board cover, while the chaff-hives were covered by a telescope cover having a ventilator in each end and an air space of about 2½ inches all around the super. There was no noticeable difference in the strength of the colonies. All were equally exposed to the sun and all hives were painted white.

In the morning the bees were working freely in all the supers, and no difference could be detected.

At 9 o'clock the thermometer registered 89 degrees Fahr., in the sun, and the bees were all working the same as earlier.

At 10 o'clock the mercury had reacht 94 degrees and the bees were still working lively.

At 11 it had warmed up to 99 degrees and the bees were beginning to cluster around the entrances of the single-walled hives, but were still working in the supers.

At 12 o'clock the column of mercury stood at 110 degrees and the bees were beginning to cluster a little around the entrances of the chaff-hives, and had formed a cluster of nearly four quarts on the front of each single-walled hive. No difference could be seen in the supers of the chaff-hives from their appearance when first opened in the morning. Those on the single-walled hives, however, were comparatively empty.

At 1 o'clock the thermometer registered 111 degrees, the highest for the day, and the conditions of the inside of the hives were practically the same as an hour before. There were a few bees above the entrances of the chaff-hives, while the whole front of each of the single-walled hives was covered with bees. The conditions remained the same until toward evening, and no more work was done in the sections on the single-walled hives that day, while the bees in the chaff-hives continued to store honey in the surplus cases all the afternoon.

Altho one experiment will never absolutely prove anything, it would seem that if hives containing bees *must* stand in the sun, it would be a paying investment to see that they are in some way protected from its direct rays.

Ingham Co., Mich.

No. 3—Extracted-Honey Production.

About Getting Stores in Proper Shape For Good Wintering—Brood in Extracting-Combs a Help at the Beginning of the Flow—Manipulating Extracting-Chambers to Discourage Swarming, Etc.

BY R. C. AIKIN.

IN the previous article was discust the size of hive and effect of conditions upon the strength of the colony and swarming. We learned that a larger brood-chamber was necessary for an extracted colony than for section honey, or, in case the same hive was used, more care and feeding for winter and *spring*. I showed you that some seasons and localities would change the conditions, and I will further illustrate. Suppose the flow closed in June or July, and you have taken off the surplus combs, shutting down to the brood-chamber. If so, and there is a little honey gathered—sufficient to stock the brood-chamber—your colony gets in condition for winter; but if the extracting-combs are left on till all late honey is gathered, then you may still expect the honey to be almost all in the super, *if* the colony is *strong*. A weak colony would store in brood-combs more. Also the size of the brood-chamber makes considerable difference in some things, and as well more or less free communication between brood and super.

Suppose you use an 8-frame hive, and the extracting-combs are all worker; after the main flow is over when you extract, a very good plan is to take one extracting-chamber and place it under the brood-chamber. You may ask why *under*, arguing that if on top it will catch the honey if any comes, and saves lifting the brood-chamber. You are right so far as that applies, but you stop too soon. Place the extra on *top* after the main flow is over, and if there are enough bees they will occupy the extra, and if the weather is warm and some honey comes in, they will be after putting it into the extra. More than this, if there be a vigorous queen, and especially a young one recently begun laying, together with a light flow and warm weather, not only will the little coming from the fields be stored above, but other previously stored below will be moved up to allow the queen to lay freely. Remember that strength of colony, age of queen, temperature, nectar coming in, etc., intensify or diminish the storing above.

But here is another trouble with that extra on top instead of under: Leave your colony thus to go into winter, and before, or by early spring, at most, the colony shifts upward into the top chamber. Once the cluster is established above, should a siege of cold come on so that the bees can not go *downward* for honey, your colony would perish by starvation. I know this by actual experience. If the extracting-combs are to be given when the flow is probably over, put them beneath. So arranged, the honey that may be stored later is crowded in close above the brood, and thus the stores are made *more* instead of less compact. The The good wintering of a colony is very materially aided by a very compact condition of stores, and the stores very close to the cluster. In extreme cold there ought to be honey within or very close above the cluster. Placing the extra under gives room for the colony to cluster down as much as they please, and they will move downward only just enough to let the honey in above the brood.

But what about getting brood in the extra if under? Well, unless put there very early in the fall it is not likely any brood will be put in it; but if there should be it will be out before winter, and in the spring none will be put there until the colony becomes quite strong. But what if there is some brood in the extracting-combs just before the flow? It is one of the best things that could happen. Rearrange the hive by putting the brood-chamber again below, then on it a queen-excluder, and the extra with its brood on top. This will cause the colony to occupy the entire hive, and being stretcht so are less likely to get the swarming-fever. That brood—even tho but a little—in the extra, causes the storage of whatever honey comes in *from the very start* to be put in the extra, thus the queen has the brood-chamber to lay as much as she pleases. As soon as storing has well-nigh filled the extra, lift it and place a fresh chamber between it and the brood, and you continue to get the honey in the extra, leaving the queen full sway below. This will almost extinguish swarming in most seasons. It will also leave the colony again without winter stores unless the extra is again put beneath, or a late flow fills up after the extra is off.

I believe there is no better way to keep extras over winter and spring than by this method of placing them *under* the colony. It makes plenty of room below that the dead may fall away from the cluster; it protects the combs, and it also protects the colony against robber-bees. Of course I am speaking of outdoor wintering; if bees are cellared they do not need so much room, nor is it so imperative that stores may be in very close proximity to the cluster, tho I am sure that for *best* results stores should be very compact and close to bees all the time, both indoors and outside.

This kind of management anticipates only worker-comb in the extracting-chambers, at least in such as are put beneath the brood-chambers. A drone-comb there in late fall or winter, even in early spring, makes no difference as it would not be used; the time trouble would come would be in the last two or three weeks just before the summer flow. The extras may be put on top when the colony becomes strong enough to desire and use drone-comb, using an excluder between; but the objection to this is that there is so much extra care needed. It would be so much more simple, and a great saving of care and time, if every colony can be left as they are with their two-story hives until the flow is just on, when one job can be made of the entire yard, in rearranging hives. There is also this in favor of all remaining as they are till the flow is on—the operation of making the shift, rearranging and readjusting, so changes the colony that if preparations for swarming have been begun they would be discontinued. Every colony should be inspected to know if swarming is already anticipated, and cells cut out from those that have been.

I will add here, parenthetically, that if any queen is failing—and weakly ones will (many of them) be at it about this time—you will discover it. If there has not been enough nectar coming in to encourage to swarming, the colonies that have cells at this time, just at the opening of the early summer flow, are preparing to supersede. If the number of cells built run from two to five or six, it is a strong indication of supersedure, but if the colony is of good strength it will be almost sure to swarm. Remembering this, you can well understand that if you have only young and vigorous queens there will be much less swarming. A colony having a vigorous queen, stores normal, and room and other conditions to make it comfortable and easy, will have little tendency to swarm until the season for swarming with its encouraging conditions arrives; but aged or feeble queens may be expected to swarm under quite less favorable conditions, and earlier and later in the season.

I would not think of producing extracted honey without queen-excluders—they are necessary to confine the queen lest there be brood in the extras when not wanted there. A little brood just before the flow begins—say a week or a little more, that it be all sealed—serves the purpose of drawing the colony up to work there, yet does not interfere about extracting. An extra having brood in it when ready to come off for extracting, is much harder to get the bees out of.

It is well to give special attention to this matter of having the stores in close, compact shape for winter, especially in outdoor wintering: it makes a colony winter more safely, and build up better in spring—more safely because stores

are easy of access, and because if brood is closely bound with honey some of that honey will be moved to get it out of the way of the brood-nest, thus better feeding of queen and brood results, that would not otherwise be obtained excapt by a flow of nectar or by feeding.

If the foregoing management be applied in an intelligent and scientific manner there can be no doubt of good results. And the more one expects to practice the let-alone plan in the spring and early summer, the greater the necessity of the better preparation and obtaining of the conditions relating to stores and strength of colony for winter.

Larimer Co., Colo.

The Afterthought.

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Richards, Ohio.

FINDING A QUEEN BY FANNING BEES.

Yes, sir, I guess McNeal has a bright, new idea for us. It is according to the probabilities ; and if he has tested the matter and found it correct it is worth while for us to test it too. If Queen Victoria was at your house, and you had a movable mechanical arrangement for cooling off things in sultry weather, the mechanism would be run right straight to the room she was in. So first look at the fanning bees outside the hive when you go for a queen in fanning weather. Page 792.

PROPOLIS ON FLOORS AND BOOTS.

That parasite, or incubus, or stick-tight-ibus,on the bee-man's sole—who has not worried his brain more or less for some scheme of relief ? Propolis scraped off must needs fly some place (inclines to fly *every* place) and when a body steps he has annext a lot of it—annext it on constitution-follows-the-flag principles, too. Mr. Wilcox, page 793, seems to think that down in a cool cellar, which has moist sand only for floor, he can tramp around on propolis scrapings and not have them follow him off. Don't more than half believe he can do it as a regular thing—may be he can. Those of you who can rub in a dram of enthusiasm and a few scruples of faith-cure into the ointment may try it—remedy worth something if you succeed. I scrape sitting, hold feet still, keep a broom in reach, and sweep me a path before rising. How is it, brethren ? Which way is orthodoxy, and which way is heterodoxy ? and who will come with a better-o-doxy ?

WIRE-RINGING THE QUEEN.

As to capturing the queen, the wire ring to surround her with suddenly, and lift her up with when she steps on it, will be new to many of us. Quite a number of trials we may need before fully deciding about the exact value of it ; but it may be that we shall decide that it is a *very* great help in that line of work. The idea is capable of modifications ; and it may be that it will yet be improved quite a bit from the way McNeal has it. Page 792.

CRUDE PROPOLIS AS A MARKETABLE ARTICLE.

I think I should look out for a trap, or a snap, or a rap of some kind, if a man wanted to buy crude propolis of me for 50 cents a pound. Price much above the cost of obtaining it, and rather out of proportion to the cost of similar articles—or should I post myself about the cost of varnish-resins before saying that ? Anyhow, if a man came around and wanted to buy the waste dish-water of your kitchen at 5 cents a gallon, you'd let him have it ; but if he proposed to pay 25 cents a gallon you would postpone things until you could form some opinion as to what the fellow was really up to. It wouldn't be easy for any one apiary to furnish great amounts of propolis ; but section scrapings, to the amount of quite a few pounds, could be furnisht *cheaper than not*. Costs more to waste it than it would to save it—it has such a won't-be-peaceably-wasted disposition. Those of us who use the wide frames to hold secretions can get a good few pounds any old time (not in the honey season) by scraping our frames. Page 790.

TWO BAD SLIPS OF THE PROOF-READER.

Seems to me the proof-reader must have been making New Year's calls shortly before he read the last Afterthought. Butter is *sold*, not "said," and the anti-progress monster was *fought*, not "bought." Nobody not already in his claws would ever buy him. Page 11.

A BEE AND FRUIT PAMPHLET NEEDED.

A little pamphlet which is not yet in existence was evidently what that legal man on page 803 needed—"The Habits of Bees in Regard to Fruit Impartially Stated by Authority." It should be gotten out by some government entomologist, and be reviewed and endorst by Uncle Sam's head fruit-man. Then lawyers (and courts, too, to some extent) would accept it. You see, we'uns are apt to state things pretty strongly on our own side—and if we didn't we would be suspected of doing so so sharply that *our pamphlet* wouldn't count much.

THE ITALIAN BEE "NOT THE WHOLE THING."

In Mr. Dadant's letter, on page 806, I was particularly interested to see that Swiss bee-keepers (as well as many of the British) do not give the preference to the Italian bee. By and by the whole actual fact about races of bees will get to the surface ; and it is quite possible that the best bee for one locality will not be the best bee for another locality. Bees that could be depended upon always to crowd the queen with honey, and check her laying in times of plenty, would be very desirable where the harvest is all in one short flow ; but where moderate flows are scattered all thru the season such bees would get so weak as to be worthless. And the Italian is the worst of a queen-crowder that we have. I believe.

BIOGRAPHICAL.

Mr. J. B. Hall, of Canada.

The man whose portrait we are permitted to present on the next page, is one of Canada's very brightest and best bee-keepers. We had the great pleasure of meeting Mr. Hall at the convention of the National Bee-Keepers' Association held in Toronto, Ont., in September, 1895—the last convention which Father Langstroth attended.

Editor H. E. Hill, of the American Bee-Keeper, was at one time an apiarian pupil of Mr. Hall, and to this day takes much pride in that fact, as well he may. Recently Mr. Hill had this to say of his former teacher, in his paper which he so ably edits:

We have pleasure in presenting in this number a most excellent portrait of Mr. J. B. Hall, of Ontario, one of the Dominion's acknowledged leaders in things apicultural.

While Mr. Hall is a very earnest and popular association worker, it is to be regretted that, for some years past, all persuasion and force, in their oft-repeated applications, have proven inadequate to the purpose of eliciting from his pen contributions to the bee-keeping press. This is the more to be deplored when we consider the fact that Mr. Hall's pen productions have a style at once interesting and instructive, peculiarly their own. A more methodical and painstaking bee-master than Mr. Hall can not be found—nor a more successful one. Too many futile efforts have stealthily been made to remove the "bushel" in which so much "light" is confined, to leave any hope for the future in that direction ; but, were it not for the profound respect which we feel for this esteemed instructor of our youth, we should not hesitate to suggest the trial of a quicker method of removing it. This might, however, prove equally ineffectual, and we shall neither try nor recommend the kicking plan.

Mr. Hall is a producer of honey, and, being such, he says he has nothing but honey to sell. His favorite bee for the production of comb-honey is an Italian-Carniolan cross, of which he has an excellent strain. He is the originator of the thick top-bar and of the wood-zinc excluder ; tho too modest to assert his right to the honor.

In the conduct of his business, Mr. Hall's operations

are governed by attendant conditions and their immediate requirements, from the standpoint of independent reason, and not according to any set of stereotypt rules, as is too frequently the case with bee-keepers. He is, obviously, a case of "the right man in the right place;" and there is ample evidence on every side, of the wisdom of his choice in adopting apiculture as his profession.

At the present time a week seldom passes in which we do not have occasion to recall some of the advice and admonitions given with his characteristic earnestness and kindly manner, 15 years ago, when he labored to eliminate the erroneous ideas which we had previously acquired, and to establish in their stead a clear understanding of what they appeared to be a most obscure subject.

That our younger readers may fully appreciate the picture, we have pleasure in reproducing a few paragraphs from the Canadian Bee Journal's report of the meeting of the Ontario Bee-Keepers' Association, held at Toronto, in December, 1899. Mr. McKnight's motion was evidently a spontaneous outgrowth of the same sense of obligation and high esteem to which every man is subject who has been intimately associated with the gentleman whom he sought to honor. It is a sense of obligation and esteem which, as we know by actual experience, constantly increases by long and very intimate association :

"Mr. McKnight—There is a little matter which I would like to bring up. We have a gentleman with us during this convention who is here only by the solicitation of a great many members. This Association has been a great success right from the first until now, and that is something creditable. There have been men who have done more than Mr. J. B. Hall has for this Association in a purely business way; but I want to tell you there is not a man belonging to this Association now, or ever did belong, who has made its meetings so interesting and practical as our friend Hall. [Applause.] He has been the life and soul of our Association meetings for the last 19 years. Like myself, the world is largely behind him; he has not many years to be here, and I think it would be a graceful thing to do anything in our power to show our appreciation of the value of his services. Altho he does not say very much outside of this Association, Mr. J. B. Hall is known all over the continent of America. I would like to move that this Association make J. B. Hall a life member—that is all. [Loud applause]. I would like, if it were in my power, to confer some higher honor upon him, but I know he does not want it; and I am not sure whether he would appreciate even this; but I know it is our duty to show Mr. Hall some mark of the appreciation of the valuable services he has rendered to the bee-keeping interests of this Province. I hope this will not be made a precedent; it would be very little honor if all the old men were associated with him; I would like to see Mr. J. B. Hall the one and only life member of this Association during my lifetime.

"Mr. Brown—I have very much pleasure in seconding Mr. McKnight's motion. I can indorse every word he has said with reference to Mr. Hall.

"The motion was carried by a rising vote, and the singing of 'He's a Jolly Good Fellow,' after which Mr. Hall briefly and suitably replied."

Mr. J. B. Hall, of Ontario, Canada.
—From American Bee-Keeper.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

Queen-Rearing is a very interesting part of bee-keeping. Mr. Doolittle's book tells practically all about the subject. See the offer we make on page 30 of last number.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

A Beginner's Questions.

This is my first year with bees, and I would like to know how to keep them successfully. I want to increase as well as to work for comb honey.

We have cold weather and snow usually from Dec. 15th to March 15th. It has been from 5 to 10 degrees below zero here for 10 days, and lots of snow on the ground.

1. What kind of hives and supers should I use for best results?

2. I took the third frame of brood from an 8-frame dovetailed hive last summer, and put it into a hive with foundation, in order to get the swarm to stay, as well as to strengthen them. The colony was strong at the time with bees and honey. On examining, before I put them into the cellar, I was surprised to find how few there were dead, and I now have a colony with eight brood-frames of honey.

On removing the frame of brood, I brusht all the bees from it. What caused them to dwindle and die?

3. Can I feed those combs of honey to two weak colonies I have, or should I give them sugar syrup? I am wintering 20 colonies in frame and box hives.

4. I had five colonies last spring that gave me 20 to 30 pounds of surplus comb honey each. The swarms gave me no surplus. I put them on new stands with one frame of brood and seven frames of foundation 3 inches wide. What could I have done to make them do any better?

NEW BRUNSWICK.

ANSWERS.—1. The kind of frame hive you already have is the one to continue, unless there is some good reason for making a change, for it is a very troublesome thing to have two kinds of hives in the same apiary, especially if they have frames of different sizes. The size of frame most generally in use is probably as good as any, measuring 17⅝x9⅛, outside measure. This is the frame used in the dovetailed or Langstroth hive.

2. Very likely they were queenless.

3. It will be all right to use the combs of honey, unless the bees were diseased, which is not likely.

4. You got all your honey from the old colonies, and none from the swarms. It may be that you would have had more honey if you had depended more on the swarms by managing in this way: When the swarm issues, put it on the old stand, setting the old hive close beside it. A week later remove the old hive to a new location. That will throw the whole field-force into the swarm, and altho you may get nothing from the old colony, you will have a strong force in the swarm, and your total yield may be greater.

What Killed the Bees?—Other Questions.

The season of 1900 opened the best in many years, with a big flow from fruit-bloom, mostly from plum and wild cherry, the scales showing a gain of four to six pounds per day. Then the great drouth commenced, which lasted until Aug. 4th. It was too dry for basswood to yield nectar. From the above date until September there was almost a daily rain. The stores from the spring-flow were about all gone, and it lookt as if every colony would have to be fed, or starve. The rain brought an immense growth of weeds on the wheat stubble, and with a few fair days the bees filled their hives with the most villainous honey you ever saw, *almost black*, and the flavor was worse than anything I ever met with before. It was from what is called wild buckwheat—a vine that has a seed shaped like buckwheat. A few cold, rainy days followed, when the bees commenced throwing out dead larvæ and young bees. Examining, I found frames of brood being uncapt, with not an egg or young bee alive. This was the case with every colony (about 80), and there was not another bee reared, to the best of my knowledge, and I examined them frequently.

1. Now, the question is, what killed them?

2. Will they rear brood in the spring on such stores?

3. Will it be best to take the honey away and feed as soon as taken from the cellar? They seem to be wintering all right, with no unusual number dying.

CENTRAL MINNESOTA.

ANSWERS.—1. I don't know. It looks as tho that villainous black imitation of honey killed them. Yet from what you say they must have been living on the same stuff since, and it does not hurt them. It is just possible that they got something poisonous that killed them, and none of it is now in the hives.

2. As they are wintering well upon it, it is quite likely they will rear brood with it next spring.

3. Keep a close watch in spring, and if everything goes straight, and brood appears healthy, let it be; but if the brood dies, or there is no brood, then change the stores.

Spring Feeding—Two Apiaries or One?

1. Do you know of any objection to the following plan of feeding and strengthening a colony in the spring? Would bees object to the partial division of their home when in two hives? If not, would they be less likely to swarm, being on 16 Langstroth frames?

Start feeding an 8-frame colony early in the spring, and before the queen gets crowded put them in a 10-frame hive. Go on feeding, and then transfer them to two 8-frame hives set close together, with the adjacent sides perforated every few inches, and with a bee-way top and bottom. Go on feeding gently until a week before the honey-flow, and then put on two supers, side by side.

2. Will bees refrain from carrying up syrup fed to them, so long as the queen is not crowded?

3. Do you think there would be any advantage, so far as yield of honey is concerned, in dividing an apiary of 140 colonies, spring count, when the out-apiary is to be only ¾ mile distant from the home-apiary, assuming, of course, equal conditions all around as to bloom? MINN.

ANSWERS.—1. The probability is that the queen would not go readily from one hive to the other, when you had the two hives side by side with holes for passageways, and if she did go from one to the other, there would be some likelihood of the bees starting queen-cells in the one she had left.

Instead of first changing from the 8-frame hive to a 10-frame, and then to two 8-frame hives side by side, it would be much simpler, and probably better, to start at once with the two 8-frame hives, putting one hive over the other. As soon as you think the bees are in danger of being crowded with only eight frames, put the second story *under* the first. Even if this is done before the bees are at all crowded, it will do no hurt. The heat of the hive rises, and an empty hive below would not cool off the brood-nest as it would with the empty hive above or at the side. Then when the bees became crowded above they could work down into the lower story; or, if you thought they were too lazy about it you could put a frame of brood from the upper story in the lower story. But when it comes time to put on supers, I have always found it better to take away one story, crowding with brood the story left.

2. Yes, the bees will store in the brood-combs anything fed to them, so long as there is plenty of room there. But it is not wise to crowd the brood-nest at any time, for there is a possibility that the combs may fill up so rapidly with brood that the bees will feel obliged to empty some of the cells in the brood-combs of their stores, carrying the same up into the super, altho when the stores were given there may have been abundance of room in the brood-combs.

3. Most surely, in any ordinary location. The only exception would be in some location so remarkably rich in resources that 140 colonies could get all they could gather without going farther than ¾ of a mile from home.

Using Extracted Honey-Dew Profitably.

How can extracted honey-dew be used in the apiary to good profit and advantage? What other uses can there be made of it? KANSAS CITY.

ANSWER.—It can be fed to good advantage in the spring to be workt up into brood. It may also be sold for manufacturing purposes.

Getting Extra Extracting-Combs.

Being short of extracting-combs, I am thinking of filling the supers next spring with combs, and the frames with starters, half and half, alternately. How would it do?

I extracted my fall aster honey in November, and got about 40 pounds to the colony, which makes about 70 pounds for the year—about an average with us here. I winter my bees outdoors, of course, and up to this time they have had a good flight every day, if not raining.

SOUTH CAROLINA.

ANSWER.—If I understand you rightly, there will be a fully-drawn comb, then a frame with a starter perhaps an inch deep, then a drawn comb, then a starter, and so on. An objection to this, especially if the harvest is at first a little slow, is that the bees will draw out deeper the cells of the fully-finisht combs, and will make the newly built combs very thin. It may be better to have all the drawn combs together on one side, and all the starters together on the other side. Then your combs will be more uniform in thickness. If the extracting-combs are of the same size as the brood-combs, you might like the plan of having the new combs built in the brood-nest instead of in the super. In that case you can alternate the frames, for when used for brood there will not be the same danger of having the combs unequal in thickness. Moreover, if you prefer worker-combs, you will have less drone-comb built in the brood-nest than in the super.

The Premiums offered this week are well worth working for. Look at them.

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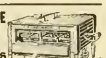

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GUS. DITTMER, Augusta, Wis.

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GENERAL ITEMS

A Good Report For 1900.

I started the season of 1900 with 62 colonies of bees, increasing to 115 colonies, and got 4500 pounds of nice honey, all of which I sold in the home market. One-third of it was comb-honey, which I sold for 10 cents per pound, and the extracted at 8⅓ cents.

LON ROSSON.

Ellis Co., Tex., Dec. 27.

Bees Did Fairly Well.

My bees did fairly well the past season, averaging 50 pounds per colony, but it was very dry all summer, and one of my neighbors did not get any honey at all. There are very few bee-keepers around here, and our bees have a large range. They are wintering finely so far; Dec. 23d and 24th they had a good flight, and look healthy and strong in numbers.

I am going to try the fences and plain sections next season as I believe they are an improvement.

J. WARREN SHERMAN.

Suffolk Co., N. Y., Dec. 29.

Report For the Season of 1900.

We have had another poor honey season in Texas, altho there was considerably more honey produced than in 1899. We commenced the season with 500 colonies, had but little increase, and harvested 21,000 pounds of honey, divided as follows: Extracted 11,900 pounds; bulk comb, 7,840 pounds; section honey, 1,464 pounds. We have had abundant fall rains, and vegetation is up; we therefore expect a good crop for 1901.

A few days ago we sent our renewal to the American Bee Journal, which we can not do without.

O. P. HYDE & SON.

Williamson Co., Tex., Jan. 1.

Bumble-Bees in Winter.

On page 809 (1900) a beginner asks, "Where do bumble-bees winter?" I am pleased with the question, and would like to have some naturalist tell us all about it.

In Canada we have several kinds of bumble-bees, some very small and others all the way to very large. They

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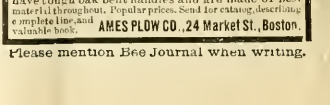

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1Atf THOS. C. STANLEY & SON, Fairfield, Ill.

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47A17t Please mention the Bee Journal

are variously and beautifully markt with pleasing colors. The smallest of all are the rarest, but their nests are the richest in honey. The medium sizes winter generally in the woods under old logs, where there is a large accumulation of old leaves. The smallest and largest may winter in the same fashion, but I don't know about that. I have often wondered if it could be that they migrate to the South like the birds, and spend a season there, and return North the following spring. Only the queens live thru the winter. I have handled a good deal of wood, logs, rails, and timber in my day, but never found any of the smallest or the largest kinds in winter. Who will tell us all about it, in the columns of the "Old Reliable," just by way of diversion and information?

Ontario, Canada. S. T. PETTIT.

Bees Didn't Do Well.

I have 20 colonies of bees, but they didn't do well last season. We hope next season will be a better one for bee-keepers.

I appreciate the Bee Journal very much, and can't very well get along without it. H. C. ROBERTS.

Lawrence Co., Ohio, Jan. 8.

Bees Wintering Nicely.

Bees are wintering nicely in the cellar, but no snow on the ground is hard on the clover. N. STAININGER.

Cedar Co., Iowa, Dec. 12, 1900.

No Honey Last Season.

I have 29 colonies of bees in good condition on the summer stands, but I got no honey the past season. There

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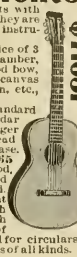

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Handsome Stick Pin FREE!

If, instead of sending for a sample, you send us 25c we will send you "Health" booklet, a 25c box and a handsome gold stick-pin, set with emerald, ruby or pearl, warranted to be worth double the money. Order by number. This is an extra introductory offer. Only one pin to one person. If unsatisfactory, money returned. Send now while the offer is good.

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were plenty of blossoms, and I never saw bees do better on fruit-bloom.

I can not do without the American Bee Journal as long as I keep bees, which will probably not be many years more, as I am 71 years old.

S. HARPST.

Mercer Co., Pa., Dec. 31.

Prospect Fair For Next Season.

The honey crop last season was an entire failure in this part of Ohio.

Bees are enjoying a flight to-day. Mine appear to be all right, tho I had to feed for winter.

White clover is plentiful and the prospect is fair for the coming season.

G. C. ALLINGER.

Marion Co., Ohio, Jan. 10.

How to Sell Candied Honey.

Years ago I came to the conclusion that the proper way to dispose of extracted honey was to sell it in tin packages in the candied form, and I began putting up our honey for the winter trade in raised-cover tin pails, and for my trouble I met lots of opposition, but I determined that the battle must be fought along that line. I first had to overcome the prejudice to candied honey by guaranteeing my honey to be strictly pure, and that it would candy in cold weather. The next trouble was that the packages were too dear for my customers, and I began using 3-pound tin fruit-cans and sealing the lids with wax (grafting wax is best). I get 23 cents per can, or $2.75 per dozen; this is for fall honey, mostly touch-me-not. I buy the cans by the gross, and stick on them a neat label. For the summer trade I use the one-pound glass jars to a small extent. I get $1.32 per dozen for pound jars.

My crop of honey was 1,675 pounds of extracted honey from 63 colonies.

C. A. BUNCH.

Marshall Co., Ind., Dec. 28.

Wintering First-Rate.

There was not a blossom of white clover or linden the past season, and my bees did very little. They are wintering first-rate.

The thermometer is 8 degrees above zero this morning, and weather clear. We have had but little snow, and fine weather. H. MESSER.

Green Co., Pa., Jan. 4.

Not Much Surplus Honey—Foul Brood.

The bees did not store much surplus last season. They did fine in the spring during maple, elm, box-elder and locust bloom, and also during fruit-bloom of all kinds. I expected to get a large amount of honey, but you know how often we are disappointed in our expectations, and I did not get over 25 pounds of surplus honey, all told. Swarming commenced the latter part of April and continued until June 2d. My bees never were in better condition for work, being very strong. I sold 40 colonies the latter part of May to a bee-keeper in this county, and he secured considerable honey.

I have about 50 colonies left, which are in good condition for winter. I winter my bees on the summer stands, and they are always packt, summer and winter—"what will keep out the cold will keep out the heat," you know. The covers are sealed down tight, and soft-maple leaves are packt two inches in front of the hives, 4 to 5 inches at the sides and back, and 7 or 8 inches on the top of the cover. The outside cover is ⅜ to ½ inch thick. All hives have good shingle covers projecting all around the ends and sides. I can put my hand in among the leaves on top of the hive in the coldest weather and it will be quite warm. I have had very little winter loss for a number of years, or since I got rid of foul brood.

I lost hundreds of colonies from foul brood. I bought some bees that had it, and once it got into the apiary I had a time of it. I did not then know what it was, but tried everything to get rid of it, and burned a great many colonies, hives and all. That was about 8 or 9 years ago, and I do not remember when I got rid of it.

Some of the old hives that were in use at that time were piled up, their covers put on after the bees were dead, and were left in the apiary. I cleaned out some of them two or three years ago and put new swarms into them. I boiled some of the frames so as to be on the safe side, and tried a few without boiling, and there was no difference—no signs of foul brood in either case—so I scraped all the old hives and frames and they are now in use. I sent specimens of the foul brood to A. I Root and Dr. Howard. I detested the odor of foul brood, but workt with it until I got rid of it.

D. C. MCLEOD.

Christian Co., Ill., Dec. 29.

Bees Did Poorly.

Bees did poorly in this neighborhood last season, but mine gathered enough for winter and stored an average surplus of 12 pounds per colony, amber extracted, from fall flowers.

May the American Bee Journal long prosper, and if bee-keepers can't afford to send in the dollar we might as well give up trying to keep bees.

S. O. LARSON.

Isanti Co., Minn., Dec. 31.

Report For the Season of 1900.

We run about 250 colonies for comb and extracted honey the past season, and averaged 50 pounds to the colony. We hope to do better in 1901.

We winter our bees on the summer stands with sawdust on top of the frames. W. J. STEWART.

Utah Co., Utah, Dec. 31.

Aster as a Honey-Plant—Introducing Queens.

The honey-crop in 1900 was about as much of a failure as in 1899, if not worse, but we should be thankful for what little we did get, and hope for better things the coming season.

I began with two colonies, spring count, increast to five, and secured 198 pounds of honey.

I also had charge of an apiary which we began with 23 colonies, spring count, increast to 24, and secured 1,200 pounds of extracted honey, mostly from aster.

Mr. W. W. McNeal certainly gives

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The EASIEST TO RUN because they have the best system of regulating temperature and moisture.
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Owing to my health, I am compelled to abandon the manufacture of the GOLDEN COMBINATION HIVE, and bee-keepers wishing a perfect sample hive, complete, will do well to order soon, as my large lot on hand will soon be exhausted. Write for prices and instructions, free.
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Langstroth on... The Honey-Bee
Revised by Dadant—1899 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

the aster a much-deserved good name on page 793 (1900). I would advise "Mississippi," page 783, to try this, as he says he is searching for good honey-plants. It has proven a boon to bee-keepers here. It comes into bloom the very last of September, and gives us a fair surplus, besides a force of young bees for winter, and bountiful winter stores. It granulates very quickly, however, especially when extracted; I have known it to granulate solid in 10 days, and when mixt with no other kind of honey it has much the appearance of lard.

Last June I received a tested queen from a noted queen-breeder in the East. She arrived all right, and I put her away until the next morning, as I was very busy at the time. The next morning I destroyed the reigning queen, and as I had so much work on hand I did not take time to separate the new one from her escorts, but pulled back the wire-cloth, exposing about an inch of candy, and set the cage on the top-bars of the hive. Some honey was coming in at the time, but I was also feeding them. I examined the hive 48 hours after the queen was released, but in a day or two when I lookt again there were numerous bunches of queen-cells, but no queen to be seen. J. WILEY MOUNTJOY.

Anderson Co., Ky., Dec. 22.

Bees in Good Condition—Swarming.

Bees went into winter quarters in this locality strong in numbers, and plentiful in stores. Most of them were left on the summer stands until late in November, owing to the mild weather. They stored an average of about 50 pounds per colony of surplus honey, altho some colonies stored as high as 100 pounds—I think mine did, spring count.

In my apiary, some years ago, a large swarm issued in June; without making any attempt to cluster they put for the woods, which is but a stone's throw from my apiary. They went slowly, flying around the tops and bodies of the trees they past. I was quite certain they had a tree lookt up in which they were intending to settle, and, sure enough, after going about 80 rods they settled about 60 or 70 feet from the ground in a pine-tree, which was about 3½ feet in diameter. The next morning I cut down the tree and safely hived the bees. Doesn't this look as tho they had this tree lookt up, and went directly from the hive to the tree?

The "Old Reliable" continues its weekly visits, and is a most welcome guest, freighted with so many good things. Long may it and its editor live to bless the fraternity which they represent. L. ALLEN.

Clark Co., Wis., Jan. 5.

Bees Light in Stores.

Bees went into winter quarters light in stores, and I may have to feed them in the spring. I am wintering some in the cellar, and some in an open shed facing the south.

My eyesight is poor, and I can hardly see to read the Bee Journal any more, but I still keep some bees, and I don't like to give it up, as I can see to read it a little. NOAH MILLER.

Iowa Co., Iowa, Jan. 8.

Poor Season for Bees in 1900.

I put 75 colonies of bees into the cellar last winter. One died of starvation, and 4 were queenless. I had 9 first and 3 second swarms, and 5 left the hive before I started to break them up. Some of the new colonies had about one pound of honey when I robbed them, and some of the old ones had very little honey. They had too many bees for so poor a season as the last was.

I took 700 pounds of comb honey from the supers, and have 266 pounds on hand yet.

I put 53 colonies into the cellar on Nov. 28th. The prospects for next season are good, provided we get plenty of snow to cover the clover, which showed up nicely last fall.

WM. DUESCHER.

Brown Co., Wis., Dec. 28.

The Belgian Hare Guide

This book is acknowledged to be the finest and most reliable book out on the Belgian hare industry. It contains complete and practical information on the following and many other subjects pertaining to the industry: History of Origin, The Belgian for Utility, The Belgian for Fancy, The Business and its Outlook, How to Begin, Houses and Hutches, Foods and Feeding, Feeding Green Stuff, Mating and Breeding, Care of the Young, Pedigrees, Score Cards and Judging, Belgian Hare Color, Dressing and Cooking, Diseases and Remedies, Preparing for Exhibition, Crating and Shipping, Caponizing, Queries and Answers, Miscellany, Belgian Hares vs. Poultry, The Belgian in England, The Belgian in California, Black Belgians and Flemish Giants. It is elegantly printed on fine paper, illustrated with numerous beautiful photo engravings, and is substantially bound. No one interested in Belgians can afford to be without it. Send your order today. Price, 25 cents.

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For $1.10 we will send the "Belgian Hare Guide" and the American Bee Journal for one year; or for $2.00 we will send the Bee Journal for two years and the "Belgian Hare Guide."

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118 Michigan St., CHICAGO, ILL.

CONVENTION NOTICES.

Minnesota—The annual meeting of the Southern Minnesota Bee-Keepers' Association will be held at the court house in Winona, Jan. 23, 24, 1901. A very elaborate program has been arranged. It is intended to secure a chorus of girls to render several musical numbers, and it is expected that the attendance will be very large. Among other good things on the program are the following: Address by Pres. E. B. Huffman; Song, "Hum of the Bees in the Apple-Tree Bloom;" "Bee-Keeping as a Source of Pleasure and Profit," by E. B. Huffman; "Reminiscences of Bee-Keeping," by J. Turnbull; "Different Strains of Bees," by F. Oech; "Production of Section Honey," by W. K. Bates; "Rearing Queen-Bees," by E. B. Cornwell; "Wintering Bees Out-Doors," by Wm. Berthe; "Implements Used in Bee-Keeping," by J. M. Rietz; "How to Exhibit Honey," by Frank Yashke; "Bee-Forage," by W. F. Martin; "Marketing Honey," by Peter Oech; "Managing an Apiary," by Phil Gardner; "Dividing Colonies of Bees," by Jas. M. Gates, and "Prevention of Swarming," by T. B. Rand.

Winona, Minn. C. A. GILE, Sec.

Grow Rich, Mr. Farmer.—Every farmer is ambitious to put aside a snug sum for the later years. Well, that is just right; but why not grow rich double-quick. You can do it. How? By planting plenty of John A. Salzer's Seed Company's La Crosse, Wis., grown seeds. You see, Salzer breeds his seeds up to big yields, as the farmer breeds his cattle to their highest point of merit. The result is, Salzer's seeds sprout, grow, and produce enormously. Many a farmer's granaries had to be built larger, and his barns needed additions put on, on account of sowing Salzer's seeds; that's good, prosperous news. Please mention the American Bee Journal when writing.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Dec. 21.—The demand has fallen off very much of late, but prices have not declined to any great degree from those prevailing for the past 60 days, but any pressure to sell would cause a decline. Fancy white comb, 16c; No. 1, 15c; amber and travel-stained white, 13@14c; dark and buckwheat, 10@11c. Extracted, white, 7½@8c; amber, 7@7½c; buckwheat and other dark grades, 6@6½c. Beeswax, 28c.

R. A. BURNETT & Co.

KANSAS CITY, Dec. 21.—Honey market firm, demand steady. Fancy white comb, 24-section case, $3.50 to $3.75; 12-section case, $1.90 to $2.00; amber, case, $3.00 to $3.25. Extracted, white, 8@9c; supply fair; receipts and demand good. Beeswax, 22@30c. Demand fair.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

BUFFALO, Jan. 4.—Honey market is very quiet and unsatisfactory. The various lots here must be cut sharply to sell. Fancy, 15@16c; fair to good, 10@14c, but prices are shaded according to the case. No extracted wanted. Beeswax quiet at 25@28c.

BATTERSON & CO.

ALBANY, N. Y., Jan. 5.—Fancy white, 17@18c; No. 1, 16@17c; No. 2, 14@15c; mixt, 13@14c; buckwheat, 12½@13½c. Extracted, white, 8@8½c; mixt, 7@7½c.

Honey market slow with light stock, but selling at concessions, especially on extracted, which have been holding too high everywhere.

H. R. WRIGHT.

BOSTON, Dec. 22.—Fancy No. 1 white in cartons, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. Absolutely no call for dark honey this year. Extracted, white, 7½@8c; light amber, 7@7½c. Beeswax, 27c.

BLAKE, SCOTT & LEE.

CINCINNATI, Jan. 4.—The market for comb honey here is becoming a little bare, altho higher prices are not obtainable. Fancy white comb sells for 16c; lower grades do not want to sell at all. Extracted is selling slow; amber for 5½ and higher; fancy white clover brings 8@8½c. Beeswax, 28c.

C. H. W. WEBER.

NEW YORK, Dec. 22.—Fancy white, 15@16c; No. 1 white, 14c; No. 2 white 12@13c; amber, 12c; buckwheat, 10@11c. Extracted in fairly good demand at 7½@8c for white, and 7c for amber; off grades and Southern in barrels at from 65@75c per gallon, according to quality. Not much demand for extracted buckwheat as yet. Some little selling at 5½@6c. Beeswax firm at 28 cents.

Demand continues good for comb honey; supply fairly good. Extracted in fair demand with enough supply to meet requirements.

HILDRETH & SEGELKEN.

DETROIT, Dec. 22—Fancy white comb, 15@16c; No. 1, 13@14c; dark and amber, 10@12c. Extracted, white, 7½@8c; amber or dark, 6@7c. Beeswax, 26@28c.

M. H. HUNT & SON.

SAN FRANCISCO, Dec. 19.—White comb 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber, 6½@7¼c; amber, 5½@6½c. Beeswax, 26@28c.

Stocks of all descriptions are light, and values are being as a rule well maintained at the quoted range. Firmness is naturally most pronounced on light amber and water white honey, the latter being in very scanty supply.

HONEY MARKET.—We may have a customer within a short distance of you who wants your honey or beeswax. We are in close touch with all the markets; therefore write us regarding your crop, stating quantity, quality, and lowest cash price. References—Either Bank here for any business man in this city.

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And Several Other Clover Seeds.

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Sweet Clover (white)	60c	$1.00	$2.25	$4.00
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Alsike Clover	90c	1.70	3.75	7.00
White Clover	90c	1.70	3.75	6.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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Beeswax wanted at all times.

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Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

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Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

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GEORGE W. YORK & CO., 118 Mich. St, Chicago, Ill.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., JANUARY 24, 1901.

FORTY-FIRST YEAR
No. 4.

WEEKLY

Mr. O. O. POPPLETON, of Florida.

THE AMERICAN BEE JOURNAL.

PUBLISHT WEEKLY BY

GEORGE W. YORK & Co.

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Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

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Or, Manual of the Apiary,

—BY—

PROF. A. J. COOK.

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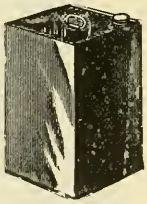

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Prices of Either Alfalfa or Basswood Honey:

A sample of either, by mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. The cans are boxt. This is all

ABSOLUTELY PURE BEES' HONEY,

The finest of their kinds produced in this country.

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I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more markt flavor, according to my taste. C. C. MILLER.

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We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., JANUARY 24, 1901. No. 4.

Editorial.

Bee-Keeping at the Pan-American.—The busy bee will be in big business at the Pan-American Exposition the coming summer. It has been decided to construct a special building for the proper display of the working colonies of bees and the great variety of bee-keepers' supplies which will constitute this exhibit. It is expected that this will be the most extensive bee-exhibit ever prepared in this or any other part of the world.

The exhibits will be so arranged that the bees may enter their hives from the exterior of the building, and carry on their work undisturbed by visitors, yet in full view thru the glass sides of the hives. As the successful management of an apiary requires a knowledge of botany as well as the habits and requirements of the bees themselves, this exhibit will illustrate the operation of an apiary, and will show the common honey-producing flora in a way to be understood by all who may be interested. The relation of bees to horticulture and agrienlture will be clearly shown, and the many uses of honey illustrated.

Since the invention of the movable-frame hive by Langstroth in 1851, the application of labor-saving, honey-saving, and bee-saving devices has been very interesting and important, as is well known by up-to-date bee-keepers everywhere. It is intended to make the most complete display ever seen of things apiarian at the Pan-American Exposition.

Amateur Bee-Keepers is the heading of an article by Rambler, in Gleanings in Bee-Culture. He contends that to the amateurs the bee-keeping world owes quite a debt. He begins with Samson, who found a colony of bees in the carcass of a lion, "some writers going so far as to claim that Samson invented the movable-frame hive, from the supposition that the bees built the combs to the ribs of the defunct lion; and it was the comb attacht to one of these ribs with which he sweetened himself."

Rambler then mentions Virgil, of later time, followed by Huber, and notes in passing that cotemporary with him were many German investigators who were amateur bee-keepers.

Then coming across the ocean he finds Langstroth, who was never an extensive bee-keeper, yet it was he who by the invention of the movable frame opened to view the mysteries of the hive, and made it possible for bee-keeping to become a remunerative business.

After that, again jumping back over the ocean, it was Hruschka who discovered the idea of the honey-extractor.

Returning to this country, among the many amateur bee-keepers who have been of great service to the bee-keeping world, he names A. I. Root, Prof. A. J. Cook, Samuel Wagner (founder of the American Bee Journal), Thomas G. Newman, F. Danzenbaker, and Arthur C. Miller, the inventor of the hot-plate foundation-fastener.

Skipping across the ocean once more, Rambler mentions J. Mehring, a German, who invented comb foundation. Also Prof. Cheshire, and Thos. Wm. Cowan, editor of the British Bee Journal, and inventor of the Cowan honey-extractor.

As Rambler intimates, the foregoing are only a few of those who while only amateurs in the pursuit of bee-keeping, yet did much to bring it up to its present high place among the useful businesses of the world. Surely, no amateur bee-keeper need be ashamed of his place or efforts, either in the past or present. May his tribe increase, and continue to bless the craft with bright and helpful ideas.

Pure Stock vs. Crosses.—A Stray Straw in Gleanings in Bee-Culture is as follows:

A fixt strain of bees is very desirable for the sake of continuing good qualities without change. But the "fixt strain" idea may be work too hard when it comes to the matter of improvement. With a strain so fixt that there is no possibility of variation, there is *no possibility of improvement*. Continuation of good traits comes from fixtness. Improvement of traits comes not from fixtness, but from variation. The trouble with a cross is that its characteristics are not fixt, but that does not argue against the *possibility* of greater improvement in the cross, and then it is the province of careful breeding to make that improvement fixt. I am an advocate of pure stock; but if I had the purest and best Italians on earth, and a cross that would beat them in storing by 50 percent, I'd drop the purity and try to fix that 50 percent.—[Yes, but I believe you will find that crosses would have a very strong tendency to sport back to the original stock, either one of which would be poorer than the mixture.—EDITOR.]

There is a somewhat sharp conflict between the Straw and Editor Root's comments; but not an irreconcilable one. Both views are correct. The progeny of pure or thorobred stock is likely to continue the qualities of the parents. The progeny of a cross is likely to hark back to the qualities of one or the other of the parents, selecting perhaps some of the least desirable traits. But there is a *possibility*, also, that there may be a sporting toward good as well as bad qualities. In the hands of the ignorant and careless, a cross is likely to run much more rapidly to the bad than pure-bred stock. In the hands of the careful there may be more poor than good in the progeny of the cross, but by careful and severe selection there is a *possibility* of something that may be an improvement on the pure stock on either side from which the cross originated. It is a question for each one to decide for himself whether he will try the more hazardous plan of breeding for improvement from an unstable cross, or the safer plan of breeding from pure stock.

"Bees Do Nothing Invariably" is a saying attributed to Mrs. Tupper, and there is much truth in it. To establish any general rule about bees, there must be no little observation. Because you see bees do a certain thing on a certain day, you are not safe in saying that all bees invariably do the same thing every day. What is true at one time may not be true at another time. What is true one season may not be true the next. What is true in one place may not be true in another place. Laugh as much as you will at the frequent recurrence of the phrase, "in this locality," in many cases locality has a large influence.

As illustrating this matter, one man, having made careful observations, says he has found that when a bee brings in a load of pollen it brings no nectar, and *vice versa*. Another man, observing just as carefully, finds a full honey-sac in bees carrying pollen. In order to establish a general rule on the subject, there must be repeated observations, all the better if made by different observers in different places and at different times.

C. Davenport says on page 776 (1900), that he has found hundreds of bees carrying both pollen and honey, while an Ohio professor found bees carrying only one at a time. Which was the more exceptional case? The general opinion has probably been in accord with Mr. Davenport's view, but it is doubtful whether many have closely observed. If it is safe to venture an opinion, it is that careful observation will show that the popular opinion is in general the correct one, and the coming season may find many to substantiate Mr. Davenport's testimony.

Another illustration may be found by referring to pages 530 and 777 (1900). The observations of "Rip Van Winkle" do not entirely agree with those of Prof. Cook, as to the matter of scouts, and as to the reason for clustering. The questions are interesting, and may possibly be of practical importance. There is no lack of testimony that scouts are sent out by some colonies before the act of swarming. In apiaries where swarming is anticipated by dividing or other means when the condition of the colony shows that swarm-

ing is in prospect, it is not an uncommon thing to see a number of bees busily engaged day after day in cleaning out a hive containing empty combs, when as yet no swarm has issued. But when a swarm clusters, and remains clustered 12, 24, or more hours, it seems reasonable to believe either that no scouts had been sent out, or that their search had been unsuccessful. The fact that bees with a virgin queen are not so sure to cluster as one with a laying queen gives color to Prof. Cook's view that a swarm clusters to rest the queen. On the other hand, discredit is thrown upon that belief by the fact that in apiaries with clipt queens it is a thing of frequent occurrence for swarms to settle without any queen. Why should they settle to rest the queen when no queen is with them? Or do they go on the general principle that a queen ought to be with them, and that she ought to be tired?

In all these disputed matters, careful and repeated observations made at different times and under different circumstances will help to general conclusions, and in the meantime it is well to bear in mind that "bees do nothing invariably."

We Wish to Thank all who have written us such kind letters referring to our recent misfortune, occasioned by the fire on the floors above us. Our "watered stock" is drying out again, and soon we will be going on as before. We feared that the old American Bee Journal might be delayed, or miss a number or two, but we were able to get it out so that our readers would scarcely know that anything unusual had happend here.

Weekly Budget

SOMETIMES.

"The hand that rocks the cradle
Is the hand that rules the—" Maybe;
But "the hand that rocks the cradle," sure
Is the hand that spanks the baby.

W. W. MITCHELL, in Progressive Bee-Keeper.

MR. T. F. BINGHAM, of Clare Co., Mich., wrote us Jan. 4th:

"The weather is fine, and the wintering prospect outdoors is better."

MR. N. D. WEST, of Schoharie Co., N. Y., wrote us Jan. 3d:

"It is zero weather this morning; no snow, good wheeling, and bees are quiet."

THE AUSTRALASIAN BEE-KEEPER is guilty of the following:

Jogging him: "Ello, Slumpy! Wot's de matter wid year face and han's? Got de hives?"

"No; I got de bees!"

EDITOR HUTCHINSON, of the Bee-Keepers' Review, says:

"A pun, if a good one, is often quite enjoyable. For instance, at the banquet held at Niagara Falls during the Ontario convention, There was an allusion to the green color of the water in the rapids just below the falls, and some curiosity exprest as to what this color was due, when some one suggested that it was *green* because it had *just come over*."

MR. WM. A. SELSER, of Philadelphia, we learn in a letter from him dated Jan. 15th, lost his beloved sister, by death, last month. We had the pleasure of making her acquaintance when stopping at Mr. Selser's home a year ago last fall, while attending the National Convention. Among other things in his letter, Mr. Selser says:

"She was so helpful to me in my business; from the very start she helpt bottle honey. Ten years ago, when I first began the idea of bottling, there was no end of mishaps and drawbacks caused from lack of experience on my part, and loss of hundreds of dollars in little accidents from the lack of knowledge as to how to do it right; I would become discouraged, and feel like giving it up, when she would cheer my heart with encouraging words, and take right hold and try again, and try to show me where I was wrong. We would work side by side with my wife and man, week after week, to make it go. For the first few years she did all the labeling, then as my business increast, and I had to employ a larger force, she took charge of the molding of some four tons of beeswax in 1-ounce, 4-ounce, 8-ounce, and 1-pound cakes, packing them in boxes made for the different sizes, and getting them in shape to ship to my trade in Baltimore, New York, and Boston. She also put up a large lot of sections and frames for my made-up hive-sales in spring and summer. And in all the years she would never accept one cent for her services; and upon the anniversary of her birth, when I would desire to remember her in a substantial way, she would say, 'Now, brother, you are doing too much for me.' Her life was one of unselfishness, and the very idea of pay would take her real pleasure out of her service.

"The pecuniary loss is the smallest part to me, but her bright, sunny, Christian disposition, so encouraging at every turn, will be one that I will ever miss, and leaves a place that never can be filled. We laid her body away on Dec. 22d; her Christmas was with Christ, the author of it. We left the New York office to bring her home on account of appendicitis; she was sick only six days."

In addition to our own sympathy, Mr. Selser will have that of all the bee-keeping friends in the departure of his sister. But his loss must be great gain on the other side, where only character is valued. And then there is no little gain to those who are left behind, for the influence of her devoted life and example will ever remain to bless those who knew her, and be to their memories as pleasant as the sweet fragrance of beautiful flowers.

HONEYED BAKED APPLES.—Mr. A. E. Willcutt sends us the following which he clipt from some paper:

"In baking apples, honey for sweetening is truly delicious. Wash the apples and core them, but do not peel; a bit of cinnamon may be put in the holes made by removal of the cores. Put the apples into a baking-pan, with just enough water to cover the bottom of the pan. When the apples are baked for 20 minutes, add the honey and baste them frequently until done. For very sour apples use a half gill of honey to every six apples. Eaten hot or cold, with or without cream, they are good."

We publisht this same information several years ago, and we were quite certain it originated with the bee-keeper who then sent it to us.

MR. W. L. COGGSHALL, of Tompkins Co., N. Y., writes us that it does not look very bright for his bee-keeping in Cuba, as signs of diseased brood are appearing. On page 829 (1900) it was mentioned that Mr. Coggshall had shipt a lot of bees to Cuba, expecting to carry on the business there.

MR. J. E. CRANE, of Vermont, has an article in the Bee-Keepers' Review telling how his bees helpt to build his beautiful home, a picture of which forms the frontispiece. He says that when young he was quite an invalid, and the doctors advised living on a farm, but he was not able to do heavy work, nor had he the capital to employ some one to do it for him. No one in his locality had made a business of bee-keeping in those days—about 40 years ago—tho some of his neighbors kept bees, and were able to sell some honey in good seasons. He read the books of Quinby and Langstroth—there were no periodicals devoted to bee-keeping in those days. He was led to believe that he could sell enough honey to employ the needed help to work on his farm, even if he did not produce enough to make a living at the bee-business. He began in a small way, as all beginners should do, and did not get a pound of surplus the first season, as it was a very poor one. The next year his colonies averaged 100 pounds. He then increast his apiary until he had six or seven hundred colonies all his own. He used frame hives from the very first, and had Italian bees. The price of honey averaged 30 cents per pound above the cost of selling, being fully double what it is to-day.

He thinks that more failures in bee-keeping come from increasing too rapidly than from any other cause. He has stuck to his bees thru all kinds of seasons, and believes that they will pay as well, ordinarily, as any other branch of rural industry. After 35 years of work with them he is more interested than ever. He thinks that it pays to persist in the business rather than to sell out when a poor year comes, or let them die, and go into something else. He realizes that many parts of our country are unfit for keeping bees profitably, the same as would apply to wheat-growing or fruit-raising, and that there is nothing to be gained by trying to believe that bees can be made a success everywhere. The way to discover a good location is to investigate the flora, and consult those who have kept bees some years in such localities.

THE ONTARIO BEE-KEEPERS' ASSOCIATION elected the following as its officiary for 1901, at its meeting held at Niagara Falls last month:

President, John Newton, of Thamesford; 1st Vice-President, J. D. Evans; 2d Vice-President, Jas. Armstrong; Secretary, Wm. Couse, of Streetsville; Treasurer, Martin Emigh; Foul-Brood Inspector, Wm. McEvoy, of Woodburn; Assistant Inspector, F. A. Gemmill, of Stratford.

Woodstock, Ont., was selected as the next place of meeting. We learn that the last meeting was the best ever held by the Association. We hope soon to find room for an epitome of at least a portion of the proceedings.

MR. G. M. DOOLITTLE has been down in Arkansas for several weeks, looking after a farm in which he is interested. He expects to be at his home in New York State again about Feb. 1st. Among other things he says this in a letter to us dated Jan. 12th:

"I do not see why bees ever need to die in wintering bees here [Sebastian Co., Ark.], if they have food enough, for more than one-half the days since I have been here have been warm enough for them to fly, and the sun has shone every day but two."

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 39.)

Pres. Root—We will next listen to the paper by George W. York, on

HOW TO SHIP HONEY TO MARKET, AND IN WHAT KIND OF PACKAGES.

While this subject is ever one of greatest interest to those bee-keepers who make the production of honey a real business, still it is also a topic on which it is almost impossible to say anything new—especially for me to do so.

Unquestionably, the "how" to ship honey to a distant market is by freight, every time, and for two very important reasons, viz.: First, the transportation charges are much less than by express; and, second, the comb honey so shipt is more likely to arrive at its destination in good condition.

SHIPPING COMB HONEY.

In the shipping of comb honey great care must be used in its preparation to withstand the necessary handling in transit. Judging from personal experience, and also from somewhat extensive observation in the Chicago market, the only safe way in which to put up comb honey to stand shipping successfully is first to put it into non-drip cases, having a follower-board at the back of the sections, with newspaper wadded up and crowded in back of the follower.

After that, the cases of honey should be placed firmly in a large crate whose upper side-pieces extend out and beyond each end of the crate about six inches, to be used as handles for carrying between two men. In the bottom of the crate should be put a bed of straw or hay, to act as a cushion under the honey-cases. Then, when putting the cases in they should be so placed that the glass side of each shows thru the crate. This will be an aid to the freight handlers, revealing the contents, and thus suggesting care in moving the crates.

It is not a bad thing to put hay or straw on top of the cases before nailing the top slats on the crate, so that should it accidentally be turned upside down, the honey would not be injured.

But in addition to all the above care in packing comb honey for shipping, it is also well to mark or tack on this precautionary notice, in large letters, COMB HONEY—HANDLE WITH CARE.

If comb honey is prepared for shipment as above directed, precious little of it will suffer any when shipt, no matter what the distance, nor how often it may be transferred from one railroad to another.

CAR-LOAD SHIPMENTS OF COMB HONEY.

For car-load shipments of comb honey no crates are necessary. Simply see to it that the cases are placed solidly in the car, in such a way that the combs are parallel with the railroad track. This is necessary in order to avoid breaking down of combs from the sudden starting or stopping of the cars. The bumping of freight-cars is simply an awful thing, hence every case of honey must be securely fastened. It will do no harm to put a light bed of straw or hay on the floor of the car before putting in the cases of honey. Even if not really necessary as a cushion, it would serve to keep the bottoms of the first row of cases clean.

If you wish to keep the tops of the top tier of cases neat and clean in the car, the whole can be covered with newspapers, or other paper, tackt down lightly. Or, what is better, a large canvas covering can be used, and after the honey is unloaded, this canvas can be returned by freight to the shipper, and thus used over and over again. It pays to keep comb-honey cases absolutely clean. We all know how dirty and dusty one becomes when traveling even in the comfortable upholstered passenger coaches; but how much worse it must be in a rough old freight-car!

SHIPPING EXTRACTED HONEY.

It will not be necessary to say much on the shipping of extracted honey. Simply put it up in good 60-pound *tin cans*, two in a box, and send it off to market by freight.

Now, I know there are some large and most excellent producers of extracted honey who prefer to use wooden barrels for holding and shipping their honey. No doubt that is all right *for them*, but I don't advise it. Of course, I am not going to try to compel them to use tin cans if they prefer wooden barrels. I would simply say, I believe that perhaps three-fourths of all the extracted honey produced in this country is now shipt in tin cans; and I further believe that within ten years practically all of it will be put up in such packages.

I have no doubt that the barrel has the advantage of cheapness, and is also more easily rolled around than two square cans in a box. But for a strong tendency to spring a leak, and for a miserable job of digging out candied honey, you always can count on the barrel.

For reliquefying, for selling in uniform single-package amounts, for nearly every desirable thing one wants to do with extracted honey, I always commend the 60-pound tin can.

Now, I believe I have not offered one new idea in this whole paper. But it's not my fault. I didn't solicit the job of writing it It was forced upon me—likely to fill out the program, or because somebody else declined the stupendous honor (?). But no matter now just *why* I was prest into service for this special occasion. The subject, as well as the paper, is before you for discussion. Both are warranted to take in meek submission whatever you may feel disposed to administer. GEORGE W. YORK.

Pres. Root—You have the paper before you; now is the opportunity for discussion. On the suggestion of some one the discussion yesterday and the day before on this subject was deferred till after the reading of Mr. York's paper. Now is the time to discuss all these things.

W. J. Pickard—Two years ago I shipt 250,000 pounds of honey in barrels. I did not have any loss; I got paid for the same amount of honey that I shipt; but this year I was advised by our old friend, Mr. York, to use cans. We have used cans to our regret and sorrow. We filled a can to get ready to send away and found it bursted on the bottom and running all over the floor. Or, we would get a can full and get ready to send it away, and find a nail hole on the top or side; all these things we have had. Fill a good barrel with honey and roll it off into a corner and it is sure to be there the next day. We paid about 90 cents for cans; we use a barrel that will hold 350 pounds for 90 cents. It takes a small boy to roll a barrel, and takes a man to handle two 60-pound cans.

C. A. Hatch—I have used honey-cans almost every year, and I have used barrels also; and I have lived in the same county that Mr. Pickard has workt in nearly all my life. I have had more loss in one season with barrels than I ever did in all my experience with cans. I have had 350-pound barrels of honey, the head drop out, and the whole contents run out into a man's wagon-box so it was all lost. The first intimation he had of any disaster was that his feet and lines were wallowing around in honey.

Mr. Taylor—Difference in location!

Mr. Hatch—It isn't the location; I have filled cans from Wisconsin, Arizona, California and Colorado, all the same, from one end of the country to the other. I endorse every word that has been said by Mr. York, but laying all jokes aside, there is this condition about the two packages: If you have a good cooper and know just where you can get your barrels at a reasonable price, and know you can depend on them, the honey that goes to bakers and manufacturers should be put in barrels; but if you want it for retail grocers' trade, you can't beat the can. We have to study our market and find out how honey is consumed, and then put the honey in the package that the market demands, no matter what our opinion is. It was said you have to pay 90 cents for cans; that must be a mistake; the cost is about ¾ cent per pound if put in new cans, and about a half a cent if put into barrels. Let me tell you an experience I had with barrels. There was a cooper running a large manufacturing establishment near me, and the man I had been getting my barrels from moved away, and I thought that as long as I could get barrels from that cooper I was all right, but in this case I had to get new barrels, so I told him to send me a sample of his different kinds of barrels that he thought would do for shipping honey. There was one that I thought I would measure and estimate what it would hold, and so I commenced pouring in water at the

pump. I poured and poured; thinks I, that holds an awful sight of water. I thought I would examine it, and I went around the barrel and there it was coming out in a big flat stream as fast as I could pour it in; and, mind you, that was a sample, not regular stock. If that was the case with samples, what would his regular goods be? Only last year I bought five-gallon cans and on taking some of those to market one of them fell down and I lost nearly one-half, besides it daubed the wagon-box and all the other cans.

Mr. Pickard—I wish to call the gentlemen to order. He has his face from me, and I can't tell what he is saying. Take the platform and then we can all hear.

Mr. Hatch—I have said just about all I had to say, any way; but the trouble with Mr. Pickard this year is, he got a few second-hand cans. It must have been some fault in his management of those cans; I filled many more than he did this year out of the same lot, and I had to solder only four or five, and found one rusted on the side so it would leak. Let me tell you a little experience of a friend of mine in loading barrels. We had some 350-pound barrels; two men were handling them and were getting one of them up into the wagon, and the end of the barrel slipt and came down and took the end of his finger off; he couldn't do that with a can. Another time, I myself was hauling honey to the city of Winona; I was delivering a 350-pound barrel in an express-wagon. Crossing the railroad-track ahead of an engine, it tipt over and caught me between the edge of the seat and the barrel; if I had not been in a square position, my arm would have been broken; as it was, I had to carry my arm in a sling a day or two. Every time you handle a barrel with a lot of honey, you have to cooper it. Mr. Pickard has just said if you rolled it up in the corner you would find it there in the morning. If you take it to the depot, you have to cooper it over before it goes on the car; when the man gets it in Chicago, he has to cooper it over unless he puts it in a damp room; if he takes it from a damp room and puts it in a dry room, he has to cooper it over; it needs constant watching. If you have cans and put them in there, they are there to stay until the market takes the honey off your hands.

F. Wilcox—It is hardly a question of location. Mr. Pickard, Mr. Hatch and myself are practically in the same field—from the same place. Mr. Hatch has said about what I intended to say, so I merely agree with him. What I want to say is on the question of market. If the honey is to go to the wholesale buyers, like the National Biscuit Co., use small barrels and half-barrels; it gives them the best satisfaction. But if it is to be consumed by the grocers, by all means I would have five-gallon cans, or small ones, and for reasons which have already been given. The reason for using barrels is that they are cheaper; it costs from 20 to 30 cents per 100 pounds of honey for half-barrels, and from 60 to 65 cents for cans; that difference alone makes all the difference between a profit and a loss when buying and selling honey; and you also sometimes have a loss by having the honey soak into the wood. I prefer to have barrels painted; paint them, then the honey may not ooze out in warm weather thru the pores.

N. E. France—I don't want to bother with tin cans. Both Mr. Hatch and Mr. Pickard appreciate the tin can in its place. I want to call attention to barrel cooperage. Unfortunately, too much of our barrel cooperage has not been properly done, and again, unfortunately, the masses of the bee-keepers spoil that cooperage by soaking it up before putting the honey in it. I have barreled my honey for over 20 years without five pounds of loss over that whole time. In order to make a barrel that is tight, we must kiln-dry the timber; then have iron hoops that we can "drive home," and then keep it dry. This year in the same county where these two gentlemen are living, I found a man with 27 barrels of honey, and to my surprise he said, "What is the reason that I can not make my barrels hold?" I found that he poured boiling water in the barrel before filling with honey, and then after filling it rolled it into the sun, and I don't wonder the staves all fell down as quickly as it got daylight. I buy my barrels in the winter, kiln-dried, and put them in a dry room, and just before filling dry them again until they are thoroly dry, and I will warrant those barrels anywhere. Whether you use barrels or cans depends upon the market; each has its place.

Mr. Pickard—Mr. Hatch seems to think he has had a great many mishaps, cutting off his fingers, and toes, and one thing and another, letting his barrels fall. Last year I handled between six and seven carloads of honey, and never lost a pound by any such accident; I never lost any honey in shipment; everything seemed to be all right; barrels are a great deal cheaper and easier to handle. I unloaded some honey last week at our depot in 60-pound cans. I had to go right down and take the honey and lift it up bodily from the platform. I wisht Mr. Hatch had been there to lift them. Had I had it in barrels I could have rolled them right out. I would like to ask Mr. Hatch, Who buys our honey? Where does it go? Where does the honey of the world go—to the table? I don't find it so. I find our honey goes to the manufacturer. My experience with what manufacturers I have known, is that they want it in barrels. I was in a factory not long ago and said to the manager, Which way would you rather have it, in barrels or cans? He said, "Barrels; with them I can roll it right out." I wouldn't give you a cent a can for honey; barrels are cheaper, and, as Mr. France says, if you keep water out of barrels you won't have any leakage.

D. H. Coggshall—In our vicinity, the last ten years, we used kegs, and get good ones; we don't want any second-hand kegs. They hold 210 pounds. Now we get them hoopt with flat wooden hoops, 12 on a keg. We got our kegs last February for this year; they are scattered around, most of them, in our different outhouses. We drive those hoops thoroly before we put the honey in, and don't have any leaking to amount to anything; we ship these kegs and are bothered hardly any, and it is a half a cent a pound less expense than it is to put it in cans, and we can sell it for just about the same price. Our New York market, for manufacturing purposes, wouldn't give us any more for it in cans than they would in the kegs, which are made of white poplar, as I understand it. They are thoroly put up in every respect.

Mr. Moore—My experience in this respect has not been very satisfactory. I notice there isn't any certainty that there would be no loss either in barrels or kegs. I know Mr. York told me he got a can the other day that had only about 10 pounds of honey in it when it arrived. It is well known that the Dadants are among the heaviest honey-producers of this country. They state practically what Mr. France did, that barrels are absolutely certain with them if absolutely kiln-dried and well coopered.

Mr. Hatch—I would like to ask Pres. Root what kind of packages their customers prefer?

Pres. Root—I can't say what kind of packages they prefer; a few years ago it seemed to be barrels, and now it is coming more and more in cans. My own personal experience has been more favorable with cans. The first year of foul brood with us dates back to leaky cans. The cans came on the train, and before we could get them off, the honey leakt down on the car and about two weeks after that foul brood started in our apiary. That would not be an argument against cans.

H. N. Chandler—I have had considerable experience with tin cans. I would advise those going to use tin cans not to use second-hand ones. [Applause.] If you use second-hand cans, and lose one can of honey, you have lost enough to pay for the difference between quite a number of second-hand cans and new ones. We tried second-hand cans and lost more in one year than would have paid for the difference between second-hand cans and new cans for five years; I put up 400 or 500 cans a year.

J. A. Green—I want to count myself among the barrel men. One after another has made most of the points I expected to speak on. I will say that my experience has been, with Mr. France and others, that the barrel is almost absolutely certain, while I lost considerable honey in filling new cans, and from honey that was shipt to us in tin cans. There is one barrel that hasn't been spoken of, the hard-wood barrel that Mr. Dadant has used for years: it is a second-hand alcohol barrel. You can get them at almost any drug-store; they come in two sizes, one holding about 350 pounds and the other about 550. Of course, it depends upon your market; my market demands, or at least will take just as readily, those large barrels. When I get an order for a barrel I send one of those 550 pound barrels that cost me $1.00 or $1.50 apiece. If they have not been kept a long time in a perfectly dry place, put them in the sun and then tighten the hoops. Somebody said you could not use barrels in Colorado, the climate is too dry. That is what you want; put the barrel in the sun where it will get perfectly dry, then drive down the hoops and fasten them, and you have something that will hold.

Mr. Dunne—Old alcohol barrels are coated with glue, and is the glue any detriment to the honey?

Mr. Chandler—I think it is shellac.

Mr. Dunne—No, it is glue.

Mr. Chandler—I used to wax the barrels inside, or use paraffine, but late years I have not done it.

Mr. Moore—My brother has used alcohol barrels for a

number of years, and I heard him speak in terms of commendation of them. If well coopered they will hold almost anything; I never heard him say a word against them.

Mr. France—While I was down at Mr. Dadant's, I examined those alcohol barrels; I thought I would try them next year for a small portion of my honey, as a large portion of it was going to consumers; but unfortunately I could not get alcohol barrels so clean but what there would be a little of the alcohol flavor to it; therefore I discarded them. I want new packages for honey.

Mr. Hershiser—One other barrel that hasn't been spoken of yet I think is a good barrel; it is the barrel that is used by the glucose manufacturers; they use a basswood barrel, holding 650 to 800 pounds. I have used only a few of these barrels, but I find they are excellent for the purpose; they are paraffined inside; I used second-hand barrels only. In almost every large city where glucose is manufactured, I think they can be had from the manufacturers at very reasonable prices. There is another package that I saw in a manufacturing establishment in Buffalo; it came from Wisconsin. I don't know the producer of the honey that came in those packages, but they were like a candy-pail filled with honey, and had the head put in and the honey was candied. I think that was a very nice package; it would hold, I should think, about 50 pounds. Now, while I am up, I would like to ask if those basswood barrels used by Mr. France are paraffined inside?

Mr. Wilcox—I just want to say, I am sorry to see it go upon record that any member of this convention recommends the use of glucose barrels; glucose barrels filled with honey and sent to any market in the world would excite a suspicion that they had had glucose in, emptied and refilled. I would not use a glucose barrel myself or any syrup barrel, because all syrup so far as I know, is mixt with glucose; therefore I would not buy syrup barrels under any circumstances whatever.

Mr. France—In reply to Mr. Hershiser, I will say that I was askt at one of our conventions if I waxt the barrels, and my reply was no.

Mr. Abbott—I want to suggest the question, Are we not losing sight of a certain market for our honey? I have not heard any remarks on it at all, as I was out during part of your discussion. I have not heard anything said about honey for the home trade. I handle a great deal of honey during the year; but I would no more think of selling to any of my customers honey out of a wooden package than I would think of selling it to them out of a vinegar barrel. Honey, to me, is wholly unfit if it has been in wood at all. I don't know of any way to get honey out of wood without injury; if you scrape it out, you will scrape the wood; it is always filled more or less with sediment. I notified the Dadants if they ever send me honey in a wooden package there won't any more honey come into Missouri addrest to E. T. Abbott, because I do not want it; I cater to fancy consumers, and I can't use that kind of honey at all. Just now I am using bottles. I am just hunting for somebody that has nice, bright, ripe honey in clean, new cans, where I won't have to pick out the dead bees and pieces of old comb, and strain all sorts of things out—sometimes pieces of cob-pipes and plugs of tobacco, and various other objectionable features. It is all true; I have had that kind of experience, and I simply ask you now, Wouldn't it pay you better if the large producers would cater a little more to this trade? We people who do not produce honey, but sell a great deal of it to consumers, will find you a market for your honey if you give it to us in the right shape. , I remember, not a great while ago, I got some honey from a prominent bee-keeper in Iowa; he sent it down to me in some rusty, nasty, stinking looking cans, and it made me sick to look at the cans, much less at the honey. I strained bees' wings out of it, and all sorts of stuff, and had to sell it at less price than I gave for it in order to get rid of it; it came from a prominent bee-keeper, a man who writes for the bee-papers, and thinks himself an authority. I can't sell that kind of honey. I am not saying this to take sides in favor of barrels or cans; I am telling you what we want. Will you not remember us when you are putting up your honey? We don't want any honey in barrels, or any kind of wooden package; we want it in nice, clean, new tin cans.

(Secretary—Pretty good advertisement for Mr. Abbott, and for producers, too.)

Continued next week.)

The Premiums offered this week are well worth working for. Look at them.

Contributed Articles.

Rearing Queens in Early Spring—Some Advice.

BY G. M. DOOLITTLE.

A CORRESPONDENT writes as follows: "Will you please tell us thru the columns of the American Bee Journal how early in the spring we can commence to rear queens, taking the stage of advancement in drone-rearing as a guide? In other words, if we commence to rear queens when we see larvæ in drone-cells, will drones from that larvæ be on hand to meet the queens when they are ready? If so, in this way we can tell just when it will do to commence queen-rearing, no matter whether we are located in Canada or Florida."

If the correspondent, or any one else, uses any of the plans by which larvæ from 24 to 36 hours old are given to the bees from which to rear queens, said queens will perfect and emerge from their cells in from 11 to 12 days from the time the cells are started, as a rule, for, by an experience covering a period of 30 years I find the average time, taking the seasons as they come, and the season from early spring to late fall, for a queen, is three days in the egg form, nearly six days in the larval form, and seven days in the chrysalis, making a period of nearly 16 days from the time the egg is laid to the time the young queen emerges from her cell. Very warm weather will hasten the development during all stages, to a slight extent; while very cool weather, or inactivity with the bees, as in the fall of the year, retards this development. I have never known this development to be hastened to a greater degree than having the queens emerge from their cells in 15 days; but I have had it so retarded in the fall of the year, especially where queens were reared in upper stories, that they did not emerge from their cells, or become fully mature, till 20 days from the time the egg was laid by the mother queen. But, as I said before, about 16 days is the rule, and it is one which can be depended upon in nine cases out of ten.

Then, as a rule, the young queen does not go out to meet the drone till she is from six to eight days old, seven and one-half days being about the average during the summer months, so we have the time as being not far from 17 to 20 days from the starting to rear queens to the time they would naturally fly out to meet the drones, where everything is favorable. Occasionally a queen will fly from the hive, evidently in search of drones, when from four to five days old; and I have known them to be 28 days old before becoming fertile, but in nine cases out of ten queens are fertilized when from seven to eight days old, when the weather is favorable.

If the above is correct, and I believe it is, then it will be seen that we shall want flying or mature drones in 17 days, at least, from the time we start our queen-cells.

I have not as carefully observed the time of the maturing of drones as I have that of the queens, but from the observations I have made along this line, I find that the drone is in the egg and larval form about 10 days, or one day longer than the workers, and about 14 days in the chrysalis form, making a period of about 24 days from the time the egg is laid to the emerging drone.

From six to eight days after the drone emerges from the cell it goes out for its first flight, to void excrement, mark its location, etc., similar to what the worker-bees do, which is called their first play-spell, during which they mark their location also. After this first flight they go out every pleasant day from 12 to 3 o'clock, p. m., to meet the queens, if they are to be found, so that we have about 32 to 34 days from the time the queen lays the eggs in the cells for the drones, to the time they are ready to meet the queens. Therefore, as we had from 17 to 20 days from the time we commenced to rear queens to the time the queens would go out to meet the drones, it will be seen that the drone-eggs should be laid 17 days, at least, before we start to rear queens, and this would bring the time to where the drone-brood would have to be sealed from six to seven days.

Of late years I never commence to rear queens until plenty of sealed drone-brood appears in my drone-rearing colonies. Usually, I wait longer than this, the rule which I adopt being, not to commence to rear queens till the eyes of the chrysalis drone commence to change from the white

color of said chrysalis while in its first stages, to the purple color of its later stage.

And now pardon a word regarding very early queen-rearing. My advice is, don't do it, unless you are willing to treat the colony rearing them in a similar way to which a king treats a new-born heir to the throne, for any neglect on your part will almost surely result in very inferior queens. Very early queen-rearing generally results very unsatisfactorily in this locality, as the colonies used for this purpose have to be petted and pampered, by way of feeding, often in very unsuitable weather for the breeder to be out in; carried indoor on cold nights, so as to keep up the desired temperature, etc., while the colonies used for this purpose are very much retarded, about building up, and the queens do not come up to the standard of perfection, unless the care of an old veteran is used in seeing that all the requisites of a perfect development are present, which is well nigh-impossible, in this locality, during March, April, and the first half of May. June, July and August are the months, during which the rank and file can rear good queens with the least trouble here at the North.

Onondaga Co., N. Y.

What is Meant By "Cooling Beeswax Slowly?"

BY F. GREINER.

IT will now seem as tho all the difference that existed on the matter of how to produce nice yellow wax will be laid by, or at least as soon as we fully understand the meanings of the terms used. I do not think there would have been any difference at all had it been clearly defined where the cooling is to commence and where to end. An illustration of the status would be this:

The little mountain stream passing by my house answers many of the purposes of the city water-works. We use this water for washing, rinsing, etc. When I catch a pailful of this water I can notice particles of foreign matter, perhaps soil, vegetable matter, etc., in it, and I have found out, by *experiences*, if I give the water a little time all visible particles will settle down to the bottom of the pail. Along comes a gentleman from another clime. "Nonsense," he says; "after the water has become solid, no amount of cooling will cause any of those impurities to settle. It will remain just as it is forever." And he is right, perfectly right. All the difference is, I was experimenting with liquid water, and the other gentleman had the frozen article in his mind. As soon as we find out what the other means we agree perfectly.

Beeswax "freezes" at a much higher temperature than water, but that does not alter the case any. Particles of dirt or other substances can not settle any more after it has become solid. I don't think any person of sense had expected it, even should the cooling process be carried to the greatest extreme. In this respect frozen water and frozen wax behave exactly alike.

In my 25 years' experience as a bee-keeper it has happened at least *several* times that I have melted up wax. With my facilities I never have been able to melt a batch without its coming to the boiling-point. This is exactly the point where the cooling commences, with me. I have explained a number of times in other papers how this cooling (slowly) should be managed. The impurities in the wax must have time to settle while the latter is in a *melted and quiet state*. I consider the cooling process ended when the wax solidifies, altho my idea may not be expressed properly.

Ontario Co., N. Y.

Naturally Built Combs, vs. Comb Foundation —A Reply.

BY C. P. DADANT.

IT is only since my return home from Europe that I have noticed the two articles of Mr. Deacon, of South Africa, publisht August 16th and 23d, 1900, in reply to some articles from me publisht in 1897. I had concluded to allow a similar length of time to elapse, between his notes and my next reply, as were put between our former discussions; but some of our friends seem to be impatient for a word from me.

I will leave aside the very important facts that the use of comb foundation secures straight combs and worker-combs exclusively, altho all who have tried these matters know the importance of them, and Mr. B. A. Hodsell, on page 630 (1900) has already fully covered these points.

Mr. Deacon lays great stress on Simmins' experiments as to the cost of beeswax to the bees. I must acknowledge that if I had ever read of these experiments I had forgotten them. But they seem to me to be faulty from the start. Mr. Simmins experimented with a swarm weighing three pounds, but does not seem to have taken into account the quantity of honey those bees had in their honey-sacks when hived. Bees that swarm, or that are disturbed and transferred from one hive to another, always gorge themselves with honey to the utmost, and in the case of this experiment must have been so loaded. He figures that it took 12 4-5 pounds of honey for one pound of wax, and then goes on and deducts the quantity of honey that was consumed by the bees. I can not see the wisdom of this. Surely, bees must live while they build combs, and the cost of their board should be reckoned in the total cost.

If we figure up the cost of an article that we produce, we should count up our board while we are producing it, together with other expenses. So, in my mind, the 12 4-5 pounds is nearer the right amount than the 6 2-5 which he gives as correct, while still estimating the actual amount at even less.

Mr. Simmins is not the only man who has made experiments concerning the cost of wax. Huber, a Swiss, found that nearly 20 pounds were needed. Berlepsch, a German, made it from 11 to 20 pounds, according to circumstances. Since that time experiments have been tried over and over, and the lowest report I remember, made on a practical test, with bees in freedom, was made by Mr. Viallon, an American, with two swarms of equal weight; but he forgot to take into account the amount of honey spent for the brood reared by the hive to which full combs were given, when comparing with the swarm that had to build the combs, and yet he put the amount at 7 to 8 pounds. The quantity would probably have been raised to the general average of 11 or 12 pounds had he taken the brood-rearing into consideration.

Authorities confirm the high cost of comb. Prof. Cook says that his own experiments confirm Huber's test of 20 pounds being needed. T. W. Cowan (English) puts it at 13 to 20. Cheshire (English) says it takes "many pounds."

The assertion that wax secreted is wasted when foundation is furnisht, does not hold together. Bees do secrete a little wax when the crop is abundant, and they always have good use for it, for no one ever can furnish them foundation in such shape that they can fill every part of every comb. Any bee-keeper who uses foundation has seen where they put the wax secreted, for it is whiter than the other. There are always plenty of nooks and corners to fill, and combs to seal. But when there are no combs at all, we all know that they have to hang in festoons and remain idle, probably because they must wait till the honey is digested and the wax is secreted, and because there is no room for more honey till some comb is built. So does the queen lose time, when they are hived upon empty frames, and they have to build combs before she can lay.

Mr. D. makes a play on words about the expression "drawing out" the foundation. He implies that we mean that the bees get behind each other, and, pulling at each other's jacket, thus stretch the foundation, by pulling on it. But he surely knows what we all understand by these words. I use them because everybody does, and we all know that the bees manipulate the wax with their mandibles, and that it is quickly done. A comb of foundation given to a strong colony in the evening will often be all drawn out and eggs laid in it by morning. Are they not also always remodeling their naturally built combs? When combs are whitened, at the beginning of a harvest, it is very difficult to tell just where the bees began, and we can see that they have remodeled a portion of the old comb to mix the new wax with it.

Mr. Deacon denies my assertion of the Americans being practical, and says that they "take an amazingly long time to realize the uselessness of a thing." I must say that in the matter of comb foundation even the all-wise Britishers are also apparently deluding themselves, for, besides what they make, they import thousands of pounds of this *useless* foundation into Great Britain. They are badly in need of a few arguments from our South African friend.

But this manner of denying the correctness of progress, after so long a time, reminds me of the French editor Hamet, who, 20 years after the invention of the movable-frame hive, still persisted in calling it "a puppet show," and the honey-extractor "a useless toy."

And as to the practical tact of our Americans, I feel

free to speak of it, being a foreigner myself, by birth. The honey-extractor, the bee-smoker, the much-abused foundation, are all European inventions, but take the bee-journals of 25 years ago, and see who took hold and improved and made these things practical and put them to use. Americans, of course. The Europeans only followed.

Hancock Co., Ill.

The Afterthought.

The "Old Reliable" seen thru New and Unreliable Glasses. By E. E. HASTY, Richards, Ohio.

THINK NEITHER HONEY NOR SUGAR CAUSED IT.

That life-insurance doctor on page 809, he was presumably wrong in crediting sugary urine to the consumption of honey. Moreover (altho a defiance of authorities, and possibly a sad mistake of mine), I will go further and make a pretty decided statement of my private opinion that neither sugar nor honey had anything to do with it. Pestilent old-grannyism has not all been eliminated from medical practice yet; and I doubt whether the present warfare against sweets is any better founded than the warfare of 60 years ago against drinking water. At that time almost any patient could be depended upon to die if he succeeded (by bribery or otherwise) in getting a cool drink of water.

A THREE-SCORE-AND-FOUR BEE-KEEPER.

Most of us will have to take off our hats and make a bow to Dr. Besse, with his 64 years of continuous bee-keeping. We can't even fib about it when the boys all know that our cradles are not yet 64 years back. And the boy who earns a hive of bees this summer, and continues in the business 64 years, what sort of hive and manipulation will he arrive at A. D. 1965? Page 811.

TONGUE MEASUREMENTS VS. HONEY-STORAGE.

Anent the paper of J. M. Rankin, of the Michigan Agricultural College, I will confess that I have felt all along strong suspicions that dissecting bees and measuring their tongues was a deceptive and unreliable way of getting at things. I had a sort of idea that length depended much on the amount of injection with blood and other fluids incident to life, and that cutting the member off would, of course, let all fluids loose, that there would necessarily be contraction, and that the amount of the contraction would not be at all uniform—temperature, length of time the bee had been dead, and other things, playing bewildering roles. May be I'm wrong. Don't want to be out of fashion. The idea is in the air,—breed from bees whose tongues measure high. Measurement, if it is even approximately reliable, is much more to the point than honey-storage. The latter is almost hopelessly fortuitous, except to long and skilled experiment, while the former gives us something to go by *at once* if we want to improve our bees. Get the tongues, and sooner or later the tongues will get the honey. The way the publisht lengths agree with the honey-storing reputation of the colony seems to be reassuring. But the *millimeters* are rather grinding to us. Few of us have any mental picture within as to how short meters or how long meters they may happen to be. I'll come to my own rescue and yours by figuring out that the best 240-pounder bees were snouted up to over 23 hundredths of an inch, while the yellow 135 pounders scored less than 20 hundredths—the exact figures being .236 plus and .197 minus, respectively. Strikes me we have had but few publisht measurements of this sort to beat .236. And .197 is not a bad measure. Page 812.

SEEING ALL OF THE 20TH CENTURY.

"In all probability very few now living will see all of the 20th century." Editorial, page 819. Tut, tut, dear George W.! That's not the way to talk it. To defeat the microbes and add 50 years or more to average human life, is not half so wonderful a triumph—not half so wonderful a *medical* triumph—as some the nineteenth century won for us. Don't start out by telling us that the twentieth century must, of course, do less.

BIOGRAPHICAL.

Mr. O. O. Poppleton, of Florida.

We are pleased to be able to present on our front page this week a most excellent picture of O. O. Poppleton, of Dade Co., Fla. He was born near Green Springs, Ohio, June 8, 1843. In 1855 he removed to Chickasaw Co., Iowa, where he lived until 1887, when he went to Florida, on account of his health. Excepting about two years at Oberlin College his education was obtained in the common schools.

In October, 1861, he enlisted as a private in the 7th Iowa Infantry, and re-enlisted as a veteran in 1863. In February, 1864, he was promoted to a lieutenancy, and a few months later was made regimental adjutant. While performing his duties overwork resulted in eye-trouble, which has seriously affected his health ever since. After the war he went to farming in Iowa, and married a Miss Groom, who died 12 years later, leaving him two daughters.

Dec. 6, 1881, he married Mrs. Mattie Herrick, of Ft. Wayne, Ind. On account of poor health and the very severe Iowa winters, they went to Florida during the cold seasons for several years, where they found the change of climate, with outdoor living, greatly improved his health.

When first married he was given a colony of bees in a box-hive. It so happened that in the winter of 1869 he became acquainted with a bee-paper that is now extinct. He was very much interested in it, and very soon obtained all the literature on bees he could find, thus learning that there was a better way of handling bees than in box-hives. He soon obtained movable-frame hives, and in a year or so had quite an apiary, which, in common with many others, was almost destroyed by bad wintering in northern Iowa. But the use of chaff-hives removed this trouble for the future. On account of such poor health he made no effort to do a large business with bees, but kept from 75 to 150 colonies, spring count, and devoted himself almost exclusively to the production of extracted honey. For the last ten years that he lived in Iowa his annual crop averaged 110 pounds per colony.

More than 25 years ago he discovered the value of chaff as a winter protection for bees. He also invented the solar wax-extractor about the same time. For several years he was vice-president of the National Bee-Keepers' Association, president of the Iowa State Association, and honorary member of the Michigan Association. He has ever been a careful observer, doing his own thinking and adhering to plans which he had found successful.

Over ten years ago Mr. Poppleton kept bees for two years in Cuba, the Dussag apiary in his charge containing from 400 to 500 colonies. During the winter of 1888-89, 398 colonies gave a crop of 52,000 pounds of extracted honey, or about 130 pounds per colony—a larger gross yield from one locality, but less average yield per colony, than has been frequent with him both in Iowa and Florida.

On removing to Florida in December, 1889, and looking over the situation, he decided to practice migratory bee-keeping, keeping his bees at what is now his home in Dade Co., on the banks of the St. Lucie River, from October to June, and at Hawk's Park from June to October. His home was the best winter location, while at Hawk's Park was the best-known field for black mangrove in the State. The two locations were about 150 miles apart by water, and the bees were moved on lighters drawn by steam-tugs. His losses in all this moving were no colonies at all, about one-half dozen combs broken down, and a few dead bees in some of the hives. The four seasons he kept bees in this way gave him average yields per colony, spring count—273, 291, 82, and 300 pounds. The mangrove was frozen down so badly in the winter of 1894-95 that he has changed the location of his bees to a place 35 miles north of his present home—a location with some black mangrove, but much inferior to what Hawk's Park was before the freeze. His average yield since 1894 has been some over 100 pounds per colony—about the same as he used to get in northern Iowa.

Owing to the poor health which drove him to Florida, Mr. Poppleton has not tried to do a large business, but has kept only bees enough to give him a fair living. He also

has a small patch of pineapple, giving from 25 to 100 barrels of fruit annually. He will increase the acreage of this fruit in the near future.

Mr. Poppleton's wife died about five years ago. His remaining family is a married daughter and her two children living in Florida, about 70 miles north of where Mr. Poppleton's home is in Dade County; he has also an unmarried daughter living near his old home in Iowa, taking care of her aged grandfather.

Referring to his migratory bee-keeping and methods employed, Mr. Poppleton wrote us as follows:

MIGRATORY BEE-KEEPING WITH A GASOLINE LAUNCH.

Moving bees on the water has been a favorite method since ancient times wherever migratory bee-keeping was practiced. Nearly all the different kinds of boats known have been in use for that purpose. Of late years a favorite plan has been on lighters towed by steam-tugs. These are all right if one could always secure them just when needed. Some use sailboats, which are quite cheap to use, but quite uncertain and unsatisfactory. I have used both methods within the past ten years, but found them faulty for the reasons given.

About two years ago I had built for me the launch "Thelma," probably the first gasoline-power boat in America that was designed and built especially for general apiary work, such as moving bees from one location to another, carrying honey to the railroad, going from one apiary to another, etc. She is 28 feet long, 6 feet 8 inches beam, and is

Mr. Poppleton's Gasoline Launch "Thelma."

driven by a 3 horse-power "Globe" electric gasoline engine. She is what is known locally as a "Skipjack" model, giving for a boat of that size a low and large floor space, some 80 square feet of the latter aside from the engine space. She will carry at a time about three tons of honey, or about 60 colonies of bees in single-story Langstroth hives. Her speed is about six miles an hour on an all-day's run. The engine-power is smaller in proportion to the size of boat than any other boat I know of. To have put in the next larger size of engine would have cost $300 more, first cost, and 50 percent more per mile to run, and added not to exceed 25 percent to the speed. It costs about 2½ cents per mile to run for gasoline, electricity, and oil, or less than the average railroad fare for one person. At least 20 people can ride in the boat at one time with comfort.

The picture of the boat shown herewith was taken last summer at Fort Pierce, while on my road home from Indian River Inlet with a load of bees.

The boat can also be used for pleasure-trips. Within the past month a nephew and niece from Ohio were visiting me, and the three of us spent nearly two weeks in cruising a hundred miles down the coast and back, stopping along as we pleased, to hunt, fish, view tropical scenery, etc. We had a gasoline stove, cooking utensils, dishes, and beds, in the boat, and made it our home while gone.

The boat is quite a different model from any other heretofore in these waters, but has been so generally successful for an all-purpose boat that already one other has been built of the same style, and others soon will be. It would be very unpleasant for me now, if I should have to go back to the use of a sailboat or hired steam-tugs.

Dade Co., Fla., Dec. 18, 1900. O. O. POPPLETON.

We might add in concluding this sketch of Mr. Poppleton, that we have had a personal acquaintance with him for some years, and count him as one of the best in all beedom. We have often tried to get him to contribute regularly to the columns of the American Bee Journal, but on account of his eye-trouble and general poor health he has been unable to undertake the work.

We hope that he may be spared many years to the remaining members of his family, and to the host of bee-keeping friends who appreciate his character and his efforts in behalf of advanced and progressive methods in apiculture.

Questions and Answers.

Introducing Queens—Supers on in Winter.

1. Will it do to introduce queens during the winter months where the old ones are too old to be of any use, or where the queen has died and left no brood? I am a beginner, have 30 colonies, and fear that there are some that need new queens.

2. They are outdoors, but all have double hives packt with dry leaves all around. I left the supers on all that are partly filled with combs, as I have no place to keep them. Have I done right? If not, what shall I do?

KANSAS.

ANSWERS.—1. Better not do anything about introducing queens till spring. It will be very hard for you to tell now whether a colony has a queen or not, for there will be on brood in the hive in most cases, even with the best of queens, and you may lose queens by trying to introduce now.

2. They are probably all right so far as the bees are concerned. But if you mean you have left on supers with partly filled sections, it will be rather rough on the sections. They will likely be darkened too much for first-class sections. But it will be hardly wise to disturb them now.

A Question on a Honey-Deal.

A sold to B 20 barrels of honey, B to pay A prompt cash on board the cars at A's railroad station. A delivered the honey at the station in good condition. When the honey arrived at B's station one barrel had the head knockt out, and the contents all gone. B made claim on the railroad company for the barrel of honey, and insists on A waiting for his pay for that barrel until he gets it from the railroad company. A insists that the honey was B's as soon as it was delivered at the railroad station, and that Bshould pay A for the honey, and not wait for the railroad company. Who was right, A or B? In other words, if the railroad company does not pay for the barrel of honey, who should be the loser?

SUBSCRIBER.

ANSWER.—Unless there was some specific agreement to the contrary, it would seem that if B was to pay cash for the honey delivered on board cars at A's station, that A's ownership of the honey would end at A's station, and having fulfilled his part of the contract he should be paid the stipulated price, no matter what the railroad company might afterward do with the honey. [As our opinion is askt on this question, we would say that we agree with Dr. Miller's answer.—EDITOR.]

Judging Queenlessness and Winter Stores Externally—Management with More than Two Stories.

1. Is there any way of knowing from external appearances if a colony is queenless?

2. What is the best way of determining if a colony has sufficient winter stores? As my hives are all of the same pattern, it might be done by weighing, if known what the bees weighed. Can you tell me what an average colony will weigh?

3. How is a colony run with more than two stories—a body and a super? Does the queen circulate between the first and second, and a queen-excluder on top of the second, and the honey stored in the third story? Or should there be an excluder on the top of the first, and honey stored in the second and third? If so, is there any advantage in it? Why not use only the second story for surplus, and extract as often as is necessary? KANSAS.

ANSWERS.—1. None so good as looking into the hive, and at this time of year it may not be easy to tell them, for queens are not likely to be laying now in the North. But you can judge something from the outside. If there comes

now a day when bees fly, and you find the bees of a colony running over the outside as if hunting for a queen, or if they continue uneasy after the other colonies have stopt flying, and have settled down to quietness, you may at least entertain suspicions of queenlessness. If you pound on a hive while holding your ear to it, there will be a response from the bees, and then a prompt quieting down if their queen is all right. It will be something more like a wail if they are queenless. In the working season you may be somewhat suspicious of a colony that appears very listless, and that carries in little or no pollen when other colonies are carrying in big loads.

2. If you find out the weight of a hive with its combs and a good store of pollen, then add to that ten pounds for the weight of the bees, you will be pretty safe in counting that any excess over this is honey. One of the best ways to tell how much honey there is in a hive is by actually lifting out the combs and seeing how much honey is preseut. Even then you may not be so very exact about it, for you can not tell how many cells have pollen under the sealed honey. The safe way is to make allowance for a liberal amount of pollen, for there is little danger of harm being done by too much honey in the fall or beginning of winter.

3. Sometimes one story is allowed for the queen, then an excluder, then one or more extracting stories. Sometimes the excluder is put over the second story, allowing the queen to use two stories. If 8-frame hives are used, the two stories for the queen are more needed than if 10-frame hives are used. You can use a single story for extracting-frames, but that makes it necessary to extract oftener, and makes it more difficult to have the honey well ripened. If for any reason you must have a single extracting story, it may not be a bad plan for you to extract only half the combs at one extracting, then the other half at the next extracting, and so on. That will give less chance for unripened honey, but will make you extract oftener than if you extracted all the frames at one time.

Removing Bees from the Side of a House.

A neighbor has a large swarm of bees in the side of his house, and wants them taken out. How could I drive them out and save them? I would like to drive them into a hive. I am told that some medicine will drive them out. They are very cross, but are wonderful honey-gatherers.

CALIFORNIA.

ANSWER.—The fumes of carbolic acid are very offensive to bees, and if enough of the acid is poured into the place it will surely drive the bees. If a frame of brood be held at the place where they come out, they would probably occupy it promptly, and if it could then be put into a hive, and the hive be placed so that the bees could run right into the entrance of the hive as they come out of their hiding-place, the effort to hive them ought to be successful. There is a possibility, however, that there is so much room where they are that they would merely move to another place away from their combs, and you would be no better off than before. If so, there may be no certain way to get them out without cutting away part of the wall and cutting out the combs, removing bees and combs together.

Sections Open on Four Sides—Packing Material.

I am about to buy my bee-supplies for this year, and would like advice on a few points.

1. Is there any advantage in using sections open on all four sides? I used them last year; my notion in doing so was that it gives the bees free access to any part of the surplus department easily and readily. With sections open on two sides, should a laden bee get in the department already full, she has to look around for a place to deposit her load, thereby losing valuable time.

2. Is excelsior good for the surplus department in winter?

3. Is the cork that grapes are packt in good or better than excelsior? I can get all I want of either cork or excelsior.

NORTH CAROLINA.

ANSWERS.—1. Some think that sections open on all four sides are better, for the reasons you give. Perhaps there may be some advantage in having more free communication, but it can hardly make very much difference, for if I am not mistaken, most bee-keepers cling to the sections with openings at top and bottom, and sides closed; altho some years ago much was said about sections with four bee-ways, and if they were much better they ought to have come into general use. If a bee with a load of honey were to enter a super for the first time, and should get into a section already entirely filled, it would no doubt be a convenience to have a side passage directly into a section still offering room. But that is hardly the condition. Mr. Doolittle tells us that it is not the field-bees that deposit the honey in the sections, but that the field-bees dump their loads in the first convenient place in the brood-chamber, and then a set of bees that do not go afield carry from below into the sections. Is it not probable that these inside carriers are quite familiar with the room upstairs, so that they may go generally to those parts of the super where they are sure there is room?

2. Excelsior, if dry, may answer for packing, but planer-shavings are generally preferred to excelsior, possibly because the planer-shavings are more compact.

3. Ground cork is one of the very best things for packing, and is considered away ahead of excelsior.

Feeding Bees in Winter.

What is the best way to feed at this time of the year? I have three colonies in the cellar, and three on the summer stands packt in chaff. Is it best to feed syrup, candy (if candy, what kind?), or granulated sugar dry?

ILLINOIS.

ANSWER.—The best way is to do your feeding as soon as possible after the bees have stopt gathering, whether that be in August or later. But sometimes circumstances are such that we can not do what we would like, and then we must do the best we can. Certainly it would be unwise to let a colony starve rather than to feed this time of the year. Don't think of feeding syrup now. Giving combs of sealed honey is much better. But in all probability that's about as good advice as telling you how to feed last August, for it's a pretty safe thing to assume that you haven't any combs of sealed honey. Granulated sugar dry would be little better than so much sand. The bees couldn't do anything with it. Candy is the thing, the best perhaps being the "Good" candy, made with powdered sugar and extracted honey. Warm the honey (I'd say heat it, only you might then burn it, and that would make it poison for the bees), and stir into it all the powdered sugar you can. Then knead it like dough, adding all the sugar you can work in till you have a stiff dough. Put a cake of this, perhaps an inch thick, over the brood-frames, and cover up warm. Plain candy, made of granulated sugar, the same as any confectioner makes, will also do.

Robbing—Making Comb into Beeswax.

1. Will bees on the side of a hill rob those below, say about 50 feet lower, and about 400 feet apart?

. How can make old comb into beeswax?

MAINE.

ANSWERS.—1. Such location would make no difference in the matter of robbing. Bees are just as likely to rob those below. Other conditions than those of position are responsible for starting robbing. A queenless or very weak colony is likely to be a victim, and the case is aggravated if there is too large an entrance, or if the appetites of the robbers are whetted by having combs or honey exposed so as to give them a taste.

2. A good solar extractor is perhaps the best thing. You may have something to act much in the same way by having an old dripping-pan and a cook-stove. Split open one corner of the dripping-pan, and put it in the oven of the cook-stove, with the split corner projecting out. A little stone, or something of the kind, should be put under the end of the dripping-pan that is inside, so as to make the wax run toward the split corner. Of course, the pieces of comb must be laid in the dripping-pan, and the door of the oven must be left open. Whether you use the dripping-pan or the solar wax-extractor, if you pile on a lot of pieces of old comb you will find that the cocoons of the old comb will act a little like a sponge, and will be filled with wax that you will not get. There will be less waste in this way if you put in your pan only a single thickness of comb at a time. A good way is to soak the combs thoroly in water before putting them in the pan. Then break them up and pile on what you like. The cocoons being already filled with water can not become filled with wax as they would if dry. A dish must be set on the floor to catch the wax as it drops from the pan, and it is well to have in the bottom of this outside vessel a little hot water.

DR. PEIRO
34 Central Music Hall, CHICAGO.

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GENERAL ITEMS

Wintering Well—Prospects Good.

Bees are wintering well, while early snow preceded by soaking rains blanketed the best start of white clover we have had for several years. The prospects so far are not to be complained of. H. G. ACKLIN.

Ramsey Co., Minn., Jan. 16.

The "Nameless" Bee Disease.

The past year has been a poor one for bees, but I think mine gathered enough to carry them thru the winter.

I had a little experience with the "Nameless" bee-disease last fall. One colony was so bad that it could not defend itself from robbers. I covered the hive with a sheet at night, and exchanged the stands, and the next spring there was no sign of the disease left, and last fall they seemed to be as good as any colony I have.

CHAS. BLACKBURN.

Buchanan Co., Iowa, Dec. 31.

A Bee-Keepers' Institute.

The bee-keepers' institute was held at Johnstown, N. Y., Dec. 18, 1900, and a goodly number of bee-keepers were present.

The meeting was called to order by one of the State bee-inspectors, Chas. Stewart. Mr. W. Z. Hutchinson delivered an able address on "The Use and Abuse of Comb Foundation," and an interesting discussion followed.

At the close of this meeting an association was organized for Fulton and Montgomery counties, and the following officers were elected: President, J. W. Hoffman; 1st Vice-President, G. H. Adams; 2d Vice-President, E. W. Rean; 3d Vice-President, G. W. Haines; Secretary, T. I. Dugdale, West Galway, N. Y.; and Treasurer, D. E. Floyd. A number of members were received, and the next meeting will be at Fonda, N. Y., the first Tuesday in May. G. W. HAINES.

Fulton Co., N. Y., Jan. 7.

Managing Bees—Carniolans.

I ran three of my colonies last season on a different plan from what I have been doing, and got $45 worth of No. 1 comb honey from the three; and I am going to try the same thing the coming season, and if it comes out all right I will give you the plan.

I had a fine colony of Carniolans which had one super on early in May; I was thinking of slipping another one under it, and before I got ready to do so a swarm issued and went some distance before it settled. After it clustered I hived it and brought it home. It was a powerful swarm. In a day or two I was out in the apiary and noticed a stream of bees going in and out at this new colony. I did not at first think much about it, because I knew it was a very large swarm, and thought they were hustling, and concluded that those Carniolans were dandies. When I finisht my work I went over to look

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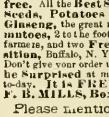
F. B. MILLS, Box 88, Rosehill, Onondaga Co., N. Y.

Please mention Bee Journal when writing.



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....PIG-TIGHT....

An Illinois farmer said that after harvest he had fully 200 bushels of loose oats on the ground that he could not secure any benefit from, because the fence around the field would not turn hogs. Figure the loss for yourself. He also said, all this would have been saved if he had used the Kitselman Woven Wire Coiled Spring Fence, and the value would have gone a long ways towards paying cost of the fence.

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KITSELMAN BROS.
Box D51. Muncie, Ind.

at them. I had placed them about 100 feet from the parent colony, and I noticed that instead of going to the fields the bees were going in a circle to the parent hive. I lookt into the parent hive and found that the swarm had taken all the honey from that hive and stored it in their own in the old combs I had given them. I let them alone, and on the fourth day all was quiet. Before fall the parent colony had rallied, it came thru the winter all right, and the next spring I sold it for $9.00. I secured a fine crop of honey from the new colony that season.

JOHN W. BAUCKMAN.
Fairfax Co., Va., Jan. 7.

Not a Successful Bee-Year.

The past year was not a very successful one with bees in this part of the country. They did almost nothing, and stored so little surplus that we may as well say that the crop was a failure. They were so light in winter stores that I had to do a great deal of feeding. They may have enough to carry them thru till next spring, and I may have to feed again. White clover failed to yield any nectar, but we look for better things the coming season.

Don't forget to send us the old American Bee Journal, for if the season was poor I think I can't get along without it, so keep it moving along.

C. H. VOIGT.
Kewaunee Co., Wis., Jan. 1.

Not Much of a "Greenhorn."

We secured about half a honey-crop here last season.

I began keeping bees in the fall of 1895, and last spring I had 31 colonies, spring count, which I valued at $4 00 per colony, which would make $124 invested; I then put in $15 worth of foundation, paid $4 00 for help, and

Langstroth on... The Honey-Bee

Revised by Dadant—1899 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

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BEE-KEEPERS!

Owing to my health, I am compelled to abandon the manufacture of the GOLDEN COMBINATION HIVE, and bee-keepers wishing a perfect sample hive, complete, will do well to order soon, as my large lot on hand will soon be exhausted. Write for prices and instructions, free.

J. A. GOLDEN, Reinersville, Ohio.
3A2t Jan. 1, 1901. Box 61.
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At the Paris Exposition

where, as usual, our exhibit attracted more attention than almost anything else, we thought we were among strangers. So we were, but we were simply surprised at the large number of people from all over Europe who called on us and said they were using **Reliable Incubators and Brooders.** All were satisfied and congratulatory and it made us feel quite at home. There is but one explanation—**merit, merit, merit.** Our **20th Century Poultry Book** makes it all plain. Sent for 10c as long as they last.

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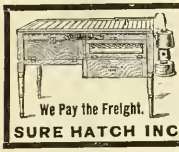

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AND COMMON SENSE FOLDING BROODERS are giving better satisfaction than any other made. It's because they are so simple, sensible and sure. They are built for busy people, who haven't time to fuss and bother. Our catalogue is FREE. We don't ask you to pay for it. I isn't worth examining!

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AS A PREMIUM

For sending us ONE NEW SUBSCRIBER to the American Bee Journal for three months with **30 cents**, we will mail you **FOUR** of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge.

This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

Draper Publishing and Supply Co.—There appears elsewhere in this issue the ad. of the Draper Publishing & Supply Company, of Chicago, which we hope every reader of this paper will see. These people have 3 high-class papers, each occupying a separate and distinct field—Dairy and Creamery, Wool Markets and Sheep, and Commercial Poultry—all semi-monthlies. The subscription price of each is only 50 cents a year, and valuable premiums are offered. Those who are in a position to secure subscriptions will receive liberal terms on application. Write the Draper Publishing and Supply Company to-day for sample copies, and tell them you saw their advertisement in the American Bee Journal.

GINSENG $10, to plants produce $4,069.10 in 10 years. Book telling how to grow it, 4c. Lakeside Ginseng Gardens, Amber, N.Y

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POULTRY BOOK FREE, 64 pages, illustrated with 3 mos. trial subscription to our paper, 10c NIAGARA POULTRY JOURNAL, Indianapolis, Ind

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Address nearest office CYPHERS INCUBATOR CO., Chicago, Wayland, N.Y., Boston, Mass

Please mention Bee Journal when writing.

workt eight days myself. Counting my work worth $2.50 per day would be $20, hence my spring valuation and all expense to date would be $163.

My bees increast 10 colonies, which at $4.00 per colony would be worth $40; I extracted 22 cases of honey, 120 pounds per case, or 2,640 pounds, which sold at 6 cents per pound would bring $158.40. This with the increase worth $40 makes a total of $198.40, the income on a $163 investment, allowing myself $2.50 per day for the time I workt. How is that for a greenhorn?

C. E. STEVENS.

San Diego Co., Calif., Jan. 2.

Did Fairly Well—Paper-Bag Feeder.

My bees did fairly well the forepart of the summer, but the fall crop of honey was an entire failure on account of the dry weather, tho all had a good supply for winter stores. One colony that did not swarm stored 54 pounds of honey, besides having plenty for winter. The colonies that swarmed stored no surplus honey; I had $11 worth in all. I sold one colony, and put 12 into winter quarters on the summer stands.

I do not quite understand Mr. Kernan's article (page 606, 1900) on paper-bag feeders, and wish he would be kind enough to give his plan a little more completely, in the Bee Journal. Does he make the pin-holes on the top of the sack, or where? and does he make many of them? I was quite favorably imprest with the plan, as I have so much feeding to do, and no one to help me.

MRS. SARAH J. GRIFFITH.

Cumberland Co., N. J., Jan. 2.

Report For the Season of 1900.

I had 120 colonies, spring count; I divided the strong colonies and now have 165 in fair condition, I hope. I have done nothing with them since July, but manzanita is beginning to bloom and I must overhaul them at once.

The amount realized on honey the past season averaged about $2.00 per colony. It has been higher than I have ever seen it since I have kept bees.

C. W. KERLIN.

Monterey Co., Cal. Jan. 1.

"Reducing the Swarming Habit."

My bees are in fine condition; the weather could not be better for them to clean house, and have a good flight.

On page 819 (1900) I noticed an editorial on "Reducing the Swarming Habit." I can agree with Mr. Lathrop and Mr. McNay (and many other bee-keepers can do likewise), in saying that by careful attention on the part of the bee-keeper swarming can be discouraged, but I can not agree with them in saying that bees can be reared that will be non-swarmers, for this reason:

I have been keeping bees—tho not continuously—since 1883. I sold out in Nov., 1897, but started again in the business in 1899 with 7 colonies, which I have increast to 13; in all these years I have had but two natural swarms. When I sold out in 1897 one bee-keeper bought 4 colonies that I had had for 6 years—one colony with a 3-year-old queen, two colonies with two-year-old queens, and one colony with a queen of July, 1897—and in all that time they

had never swarmed under my treatment. But in July, 1898, this beekeeper informed me that 2 of the 4 colonies had swarmed and that from one of them an after-swarm had issued.

I have bought, and received in other ways, strains of bees from the apiaries of some of our most noted bee-keepers; some of them have not had the opportunity to swarm, and others I have succeeded in preventing from it.

Personally, I do not believe it is to the best interests of the bee-keeper to discourage his bees from natural swarming. Better results will be secured if the bees that are gentle are allowed to increase in the natural way; but bees that have cross dispositions ought to be prevented from swarming, as it acts very much like taking the horns off of the stubborn ox and putting it on a level with the lamb.

DANA H. GRAHAM.

Lancaster Co., Pa., Dec. 31.

Seem To Be Wintering Well.

Bees are flying to-day, and seem to be wintering fairly well.

ELVERT W. HAAG.

Stark Co., Ohio, Jan. 11.

Poor Season—The Bee Journal.

The past has been the poorest season for honey in this locality in many years. I secured 26 good colonies in two-story 10-frame hives, and they nearly filled the supers.

I would not think of getting along without the Bee Journal. I have read and reread three of the standard beebooks during the last year, and am well satisfied that the copies of the Journal for the past two years are worth more to a beginner than all of these books put together. The textbooks are all excellent, and well fill the place for which they are intended, but the amount of original thought and experience which we get from couventions and otherwise thru the Journal are above everything else.

S. N. SALSBURY.

Cochise Co., Ariz., Jan. 1.

Smallest Crop In Years.

We had the smallest honey-crop in this county the past season that we have had in a number of years; in many apiaries the bees stored no surplus. The goldenrod and wild aster yielded no nectar, and the oldest beekeepers say that this never happened before in this "neck of the woods."

Our bees had their last flight Nov. 6th, and will probably be in winter quarters until April 1st. Many colonies are very light in stores. We winter them in the cellar, and they are now in splendid condition.

We had plenty of warm rains late in the fall, early snows, and no frost is in the ground. The clovers are doing well, and we are sure of a big crop next season.

WM. ROBINSON.

Barron Co., Wis., Jan. 7.

A Canvassing Experience.

If every one could get as much fun out of canvassing for new subscribers as I have, I think you would have plenty of agents. I called on one old gentleman, and, after showing him the Bee Journal, I told him that if he expected to be successful in keeping bees he should keep posted and read a bright, wide-awake journal. His reply was, "Look here, Donaldson, I kept bees before you were born, and I have forgotten more about them than you know. I tell you it's all luck." I then askt him how it happened that my bees came thru the winter all right when bee-keepers around me lost all that they had. He replied, "You were lucky; that's all there is to it." I thought my next question would "floor" him, so I askt him how he accounted for the fact that I secured a good honey-crop when others did not get any. He replied, "I tell you it's all luck; you'll see, your luck will change, too. I had just as good bees as you have, and the first thing I knew they were all gone. The worms ate them all up." I concluded he was a hopeless case.

J. M. DONALDSON.

Worcester Co., Mass., Jan. 1.

Good Instruments.

Don't confuse these instruments with cheap "bargain counter" offers. They are high grade, fully guaranteed, instruments FOR MUSICIANS.

VIOLIN—Amati model, choice of 3 colors, dark brown, light red or amber, full ebony trimmed, brazil wood bow, pearl slide, full leather bound canvas case, extra set of strings, rosin, etc., worth $20. **My Price $6.32**

GUITAR—Solid Rosewood, standard size, neatly inlaid, Spanish cedar neck, celluloid front, ebony finger board, best quality patent head. Full leather bound canvas case. Regular price $18. **My Price $7.65**

MANDOLIN—Solid Rosewood, 19 ribs; celluloid front; veneered head piece, handsomely inlaid. Elegant French Polish. Patent head, engraved tail-piece. Worth $15. **My Price, Only $7,** with leather bound case, extra set of strings and tortoise pick. Send for circulars of high grade musical instruments of all kinds.

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THE POPULAR BUFFALO ROUTE

this summer on account of the 1901 Pan-American Exposition will be the Nickel Plate Road. Countless thousands will visit this one of the greatest expositions of modern times. The Nickel Plate Road will be the popular line. The excellence of its service is well recognized by the traveling public, and the reputation of its train employees in their uniform courtesy to passengers is well known. When you go East see that your tickets read *via* the Nickel Plate Road. Write, wire, 'phone or call on John Y. Calahan, General Agent, 111 Adams, St., Chicago, Ill. 2-4a3t

Please mention Bee Journal when writing advertisers.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Jan. 19.—Honey is selling slowly; this applies to all grades with the exception of white clover and basswood comb honey, which sells readily at 16c providing it grades No. 1 or better. All other kinds of white comb honey sell at from 14@15c, and candied white comb at from 8@10c; travel-stained and off-grades of comb, 13@14c; amber, 12@13c; amber extracted, 7@7½c; dark and buckwheat comb honey, 9@10c. Extracted, white, 7c, 7½@8c; basswood and white clover bringing the outside prices; buckwheat and other dark grades, 6@6½c. Beeswax, 28c. R. A. BURNETT & Co.

KANSAS CITY, Dec. 21.—Honey market firm, demand steady. Fancy white comb, 24-section case, $3.50 to $3.75; 12-section case, $1.90 to $2.00; amber, case, $3.00 to $3.25. Extracted, white, 8@9c; supply fair; receipts and demand good. Beeswax, 22@30c. Demand fair.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

BUFFALO, Jan. 17.—All kinds of honey are so quiet it is difficult to make a sale. Occasionally some sells, fancy 14@15c; few, 16c; choice and No. 1, 12@13c; few, 14c; but dark, 9@10c, and all kinds in liberal supply; some may have to be reconsigned. Extracted, 7@8c, and not wanted in Buffalo. Beeswax, 22@27.

BATTERSON & Co.

ALBANY, N. Y., Jan. 18.—Honey market is dull on all grades now, with light stock and light demand. White comb in good condition, not candied, 15@16c; mixt, 13@14c; buckwheat, 12@12½c; mixt, 11@11½c. Extracted, white, 8@8½c; mixt, 6@6½c; dark, 5½c.

H. R. WRIGHT.

BOSTON, Jan. 18.—Fancy No. 1 white in cartons, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. Absolutely no call for dark honey this year. Extracted, white, 8@8½c; light amber, 7½@8c. Beeswax, 27c.

BLAKE, SCOTT & LEE.

CINCINNATI, Jan. 16.—Market very quiet. No change in prices. Fancy white comb sells for 16c. Extracted, dark, sells for 5½c, and better grades bring 6½@7½c. Fancy white table honey brings from 8½@9c. C. H. W. WEBER.

NEW YORK, Dec. 22.—Fancy white, 15@16c; No. 1 white, 14c; No. 2 white 12@13c; amber, 12c; buckwheat, 10@11c. Extracted in fairly good demand at 7½@8c for white, and 7c for amber; off grades and Southern in barrels at from 65@75c per gallon, according to quality. Not much demand for extracted buckwheat as yet. Some little selling at 5½@6c. Beeswax firm at 28 cents.

Demand continues good for comb honey; supply fairly good. Extracted in fair demand with enough supply to meet requirements.

HILDRETH & SEGELKEN.

DETROIT, Jan. 19—Fancy white comb, 15@16c; No. 1, 13@14c; dark and amber, 12@13c Extracted, white, 7@7½c; amber and dark, 6@6½c. Beeswax, 26@27c. M. H. HUNT & SON.

SAN FRANCISCO, Jan. 9.—White comb 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber, 6½@7¼c; amber, 5½@6½c. Beeswax, 26@28c.

Stocks of all descriptions are light, and values are being as a rule well maintained at the quoted range. Firmness is naturally most pronounced on light amber and water white honey, the latter being in very scanty supply.

HONEY MARKET.—We may have a customer within a short distance of you who wants your honey or beeswax. We are in close touch with all the markets; therefore write us regarding your crop, stating quantity, quality, and lowest cash price. References—Either Bank here for any business man in this city.

THOS. C. STANLEY & SON, Fairfield, Ill.

—DO YOU WANT A—
High Grade of Italian Queens
OR A CHOICE STRAWBERRY?
Send for descriptive price-list.
D. J. BLOCHER, Pearl City, Ill.
47A26t Mention the American Bee Journal.

BEES QUEENS
Smokers, Sections, Comb Foundation
And all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.

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BE SURE TO REMEMBER

that the popular Pan-American Exposition Route this summer will be the Nickel Plate Road, the shortest line between Chicago and intermediate points and Buffalo. No excess fare is charged on any of its Peerless Trio of fast express trains, and American Club meals ranging in price from 35 cents to $1.00 are served in all its dining cars. Palatial thru vestibuled sleeping-cars and modern day-coaches with uniformed colored porters in attendance on the wants of passengers. The acme of comfort and convenience in traveling is attained thru the superb service and competent equipment found on the Nickel Plate Road. Write, wire, 'phone or call on John Y. Calahan, General Agent, 111 Adams St., Chicago. 1-4a3t

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Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

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Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The holsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

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How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

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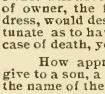

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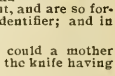

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., JANUARY 31, 1901.

FORTY-FIRST YEAR
No. 5.

WEEKLY

Apiary of Mr. and Mrs. James R. Conklin, of Cayuga Co., N. Y.

(See page 72.)

THE AMERICAN BEE JOURNAL.

PUBLISHT WEEKLY BY

GEORGE W. YORK & Co.

118 Michigan St., Chicago, Ill.

Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50c a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Bee-Keeper's Guide

Or, Manual of the Apiary,

—BY—

PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book publisht to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipt, or his library complete, without THE BEE-KEEPERS' GUIDE.

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This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms in Wisconsin. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

We have a good stock of the fine WHITE ALFALFA and WHITE BASSWOOD EXTRACTED HONEY that we can ship by return freight. Most bee-keepers must have sold all their last year's crop long before now, and will be ready to get more with which to supply their customers. All who have had any acquaintance with the above-named honeys know how good they are. Why not order at once, and keep your trade supplied?

Prices of Either Alfalfa or Basswood Honey:
(For the purpose of selling again.)

A sample of either, by mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. The cans are boxt. This is all

Absolutely Pure Bees' Honey,

The finest of their kinds produced in this country.

Read Dr. Miller's Testimony on Alfalfa Honey:

I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more markt flavor, according to my taste. C. C. MILLER.
McHenry Co., Ill.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

Address,

GEORGE W. YORK & CO., 118 Michigan St., Chicago, Ill.

26 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 26 cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price.

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., JANUARY 31, 1901. No. 5.

Editorial.

Removal Notice.

Beginning Feb. 1st, our place of business will be at

144 & 146 Erie Street,

instead of 118 Michigan Street. Our correspondents, and customers who are in the habit of calling at our office, will please note this change in location.

After our loss and general disturbance here, caused by the fire in this building on Jan. 1st, we concluded it would be best for us to seek another location. We had little trouble in finding what we think will suit us exactly.

The new place is on the first or ground floor—so there will be no more stairs to climb, as is the case here. Also, there will be no need for a freight elevator at the rear, on which we have had to load and unload all our goods the past eight years. This will save considerable handling. We will have a larger floor space at our new location, so we will be able to have everything on one floor, instead of on two as has been the case here a part of the time.

Our new office—144 & 146 Erie Street—is just a few short city blocks—(about 100 rods) —due north of the Chicago & Northwestern Railway Passenger Station on Wells Street. We will be just about midway between Wells Street and Franklin Street on Erie Street.

We think now none of our friends who come to the city will experience any difficulty in finding us.

Come and see us in our new business home —after Feb. 1st. GEORGE W. YORK & CO.

Bees and Fruit.—The editor of Green's Fruit-Grower—Mr. C. A. Green—offers the following testimonial to the value of bees to the growers of fruit:

"But as regards bees injuring fruit, there is no doubt in my mind that this is a fallacy which should be corrected thru the agricultural and horticultural press thruout the country. Make it plain to all enquirers that bees do not injure fruit, but that they are in reality the friends of the fruit-growers."

We have no doubt that those fruit-growers who have studied the subject will agree with Mr. Green. We believe that most of the opposition that has shown itself on the part of fruit-growers in the past has been a result of ignorance, or perhaps a desire to injure bee-keeping. We are quite certain that at the last analysis it will be shown that bees are of the greatest possible value to all growers of fruit, and that when they endeavor to destroy the bees or prohibit bee-keeping they are simply "killing the goose that lays the golden egg" for them. The trouble will likely be that most of the opposition will discover their error too late.

We notice in Gleanings in Bee-Culture that it is proposed to hold a joint meeting of bee-keepers and fruit-growers during the Pan-American Exposition next summer at Buffalo, N. Y.—at least one day of a joint session of the representatives of the two interests mentioned. We believe this would be a good thing, and every endeavor should be put forth to bring it about. Of course, it is just possible that the National Bee-Keepers' Association may hold its meeting at Buffalo, and likely, if such should be decided upon, the joint meeting referred to could be arranged all right. It will be helpful if the representatives of the two pursuits can come face to face, and discuss questions which are of so much mutual importance. We should be pleased to be able to announce soon that an arrangement has been made whereby the bee-keepers and fruit-growers can have the proposed joint meeting at the Pan-American. It would go far, we think, toward settling the question permanently in regard to the value of bees to fruit.

Bees on Shares.—To the often recurring and always troublesome question as to the right share of products to be given by the owner to the keeper of bees, the editor of the Australasian Bee-Keeper replies in the following sensible manner:

"Of all matters connected with bee-keeping, that of engaging another to look after the bees on shares is the most difficult to arrange satisfactorily, and I really think it is impossible to have an understanding on all points, there are so many things to be considered. Where the apiarist does the work for a share of the products, he should be allowed what might seem a rather large proportion, for he has to take all risks of the season, and the market rate, provide his own tins, etc. No, I would rather discourage any such arrangement, knowing it to be unsatisfactory. I once had an apiary on similar terms, and tho we were able to satisfy each other, there were so many points crop up that unless each made up his mind to be liberal and not exacting, a dispute would have arisen, and it seemed as if each party must be prepared to decide all points in favor of the other to settle up and remain good friends. If you wish to engage a man the most satisfactory arrangement is to pay him wages and retain all products, when you can dictate the amount of increase to have, and how the apiary should be worked. You may think that if a man has an interest in the concern he will be more attentive to his work and do better; such reasoning is very good, and the only way to make such an arrangement is to pay the producer a price per pound, or per tin, for the *honey* he produces. The wax product would have to be arranged; if wax is paid for in the same way there would be an inducement to melt up combs, and yet if wax is not paid for no attention may be paid to its saving, and the apiary made dirty with wax-scraps and bee-moth.

"To engage a man for one season on these terms he would not permit of increase, and may rather decrease the number of colonies at the close of the season to get the greatest amount of honey; also, unless each hive is arranged to contain a certain weight of honey they would be extracted too close for winter. This was my experience under a similar arrangement, and on the whole the only satisfactory arrangement is to pay wages and retain all rights and take all risks; then if the apiarist is not doing his work satisfactorily he can be dismist—not so under any other arrangement."

The Utter vs. Utter Case.—Dr. Miller, in a Stray Straw in Gleanings in Bee-Culture, has this to say about the double-Utter case recently mentioned in these columns:

"That Utter-Utter decision is alone worth more than all the money that has been put into the National Bee-Keepers' Association's treasury. So was the adulteration fight in Chicago. Now, my friends who are not yet members, don't you think you can afford to put in a dollar each to help on the good work? A lot more good can be done by the Association if it has a full treasury."

Editor Root, in commenting on the above paragraph, writes thus:

"In my humble judgment the decision of the Utter trial was worth more—vastly more—than that of the celebrated Arkadelphia case, important as that was. If the decision in the first-named had been against us, and left there, bee-keeping might have been wiped out of many fruit sections of the United States. The Arkadelphia case related only to bees in towns and villages; and if that had gone against us it would have wiped bee-keeping out of the great centers of population only, but would not have affected it in the least in the great acres of country half a mile and more from those centers. Why, it seems to to me that the results of the Utter trial are worth thousands and thousands of dollars. If the National Bee-Keepers' Union, the United States Bee-Keepers' Union, or the North American Bee-Keepers' Association, now all merged into one, had never done any more, we could still feel that the money that has been put into the several treasuries was well invested."

We agree most heartily with all the foregoing. Of course, there are many bee-keepers who think that they do not make a sufficient business of bee-keeping for it to be worth while for them to join the National Association. We think, however, that they are making a big mistake. No one can tell just when he will have to meet the same kind of opposition as did Mr. Utter, the bee-keeper. It pays to be prepared in advance for any such attack. But even if it were unnecessary for you to defend yourself, you would have the satisfaction of knowing that by joining the Association you were doing good by helping others who are unfortunate enough to be compelled to defend themselves against envious or

ignorant neighbors. This writer has been a member of the Association for nearly 10 years, and has never had to call upon it for any help, and never expects the time to come when it will be necessary for him to call for such aid. However, he would not think of being outside of the Association, for, in view of such good work as it already has done for bee-keepers, he feels that it is a very little thing for him to pay his $1.00 a year to help.

Instead of a membership of less than 600 there ought to be at least 6,000 bee-keepers who have paid their annual dues to advance the interests of the pursuit in which they are engaged. There are many lines of work that could be pusht if the officers of the Association had the means to undertake it. But we have always felt that even a larger membership would of itself be a great influence; if, when an attempt is made to secure the passage of a law against foul brood or spraying fruit-trees, those working for the passage of such law could say that the National Bee-Keepers' Association with its 6,000 membership was unanimously in favor of such laws, it would go far, we think, towards securing the enactment of such measures. So long as only a few of the thousands of bee-keepers in this country deem it of sufficient importance to belong to their National orgauization, we can hardly blame legislators for paying scarcely any attention to any resolutions or suggestions that might come thru the Association. In numbers, as well as in a full treasury, is their strength. It is true the full treasury is very necessary, but the best way to secure that desideratum is to get a larger membership. More money will always follow increast membership.

Not being an officer of the Association we feel very free to speak in its favor, and do all we can to get others to join and send their membership dues to General Manager Eugene Secor, of Forest City, Iowa. However, as we have often said before, if it is more convenient for any one to send the dues to this office we will be glad to receive it and forward to Mr. Secor, who will then mail individual receipts.

"The Uncapping-Fork continues to be vaunted in the German bee-journals as superior to an uncapping-knife. It is made with adjustable forks or needles, so that if one is broken it may be replaced. Price, with extra needles, 33 cents." So says a Stray Straw 'n Gleanings in Bee-Culture. We have seen one of the uncapping-forks referred to, in the apiary of Mr. L. Kreutzinger, of this county. We do not know whether he has tried to use it, as he works mainly for comb honey. We hardly think that it could take the place of the uncapping-knife in this country.

In Love with Your Business.—In one of our agricultural exchanges we read this recently:

"The successful farmers are the ones who are in love with their business."

"In love with their business." That's it. That's the secret of the truest success. You may not become rich while following a certain honorable business. You may not equal in many ways your competitor's ability to get ahead. But if you love your work there is good prospect of the best success.

We know some men who are "dead in love" with their work—if it were not so they would turn their attention to something else, for they are not getting rich in their present business. But they are successful, nevertheless.

It is the same way with bee-keeping. Seest thou a man or woman in love with bees and their care, surely such will succeed, for they will persist until success is compelled to be theirs.

The young man who is truly "in love" never gives up the struggle until the young lady is won—or until he finds out the reason why he fails of success. The same spirit of determination should fire the heart of every man who would win success in any line of honest effort.

Weekly Budget

THE WISCONSIN CONVENTION will be held at Madison next Tuesday and Wednesday, Feb. 5th and 6th, in the State capitol building. A portion of the interesting program is as follows:

President's Address, by N. E. France; Cellar vs. Outdoor Wintering, by A. P. Miner; Outlook for a Bee-Keepers' Exhibit at the Pan-American Exposition in 1901, by E. D. Ochsner; Honey Exchange, by C. A. Hatch; How to Maintain Present Prices of Honey in the Event of a Good Honey Crop, by Harry Lathrop; Short Cuts in Extracting, by Frank Minnick; Discussion of Laws Pertaining to Foul Brood, by N. E. France; and Mrs. Evans and Mrs. Towle will each present a paper on subjects of their own selection.

The secretary, Miss Ada L. Pickard, in her announcement, says:

Many of the prominent and experienced bee-keepers will be present.

E. R. Root, editor of Gleanings in Bee-Culture, will present his stereopticon views on the evening of Feb. 5th. These we know to be highly entertaining as well as instructive, and to be appreciated they must be seen. Since Mr. Root presented these at the National Convention he has obtained many new slides, which will prove to be instructive and interesting to fruit-growers as well as to bee-keepers.

A general discussion will follow each topic, and a free use of the question-box and answers will be a prominent and valuable feature.

Excursion rates, within 200 miles of Madison, one and one-third fare for the round trip, ticket purchast Feb. 4th, 5th or 6th good to Feb. 9th. Tickets in Wisconsin, over 200 miles from Madison, same rate if purchast Feb. 4th, good to Feb. 9th.

Editor W. Z. Hutchinson, of the Bee-Keepers' Review, as well as the editor of the American Bee Journal, expect to be present also. We are anticipating a good meeting. Wisconsin bee-keepers should turn out in full force.

MR. O. O. POPPLETON, it seems, has been receiving considerable notoriety recently in several of the bee-papers. About two months ago we received his photograph, expecting to use it in the Bee Journal very soon after, but before we were able to do so we found that the American Bee-Keeper had also decided to present his picture, which appeared in the December issue of that paper. Then, just after making up our forms of the last week's Bee Journal, in which appeared Mr. Poppleton's picture, we received Gleanings in Bee-Culture, and discovered it there also. So it seems that at least three of the bee-papers had been planning to show Mr. Poppleton to their readers. It is all right, as there is no one in all the ranks of bee-keepers whom they would be more pleased to see and read about.

It was Mr. A. I. Root who said to his son E. R. Root, when he (A. I.) had the editorial management of Gleanings in Bee-Culture, "Whenever you see anything from that man Poppleton just hand it right in to the printer. It is *always* good. He is sound and practical." Editor E. R. Root says he has found his father's statement concerning Mr. Poppleton to be literally true.

Mr. Poppleton, as is known by most of the older readers of bee-literature, uses what is called the "Long-Ideal" hive, the frames being 12 inches square, and from 20 to 24 frames in each hive. These frames are all used in the brood-chamber, and, of course, are run entirely for extracted honey. Mr. Root says:

"Mr. Poppleton himself believes that the hive first devised by Langstroth 50 years ago has not been improved upon so far as shape and proportion of frames are concerned, for the production of *comb honey*. But the production of *extracted honey* is so different he thinks it is doubtful if the same style of hive and frame can be best for both."

MR. CHAS. BECKER, as well as other apiarian exhibitors at fairs, hear some queer remarks made by visitors who see the exhibits of honey and bee-supplies. At the Illinois fair last fall an old couple were gazing at Mr. Becker's large exhibit of bottled extracted honey. The old gentleman said to the old lady:

"What is that along there in them bottles?"

"I don't know unless it is an advertisement for a drug-store," replied the lady.

Mr. Becker is a very sweet "druggist."

On another occasion some spectators were strolling along and came to the honey-extractor. One of the company upon enquiring what it was, received this wise answer from another visitor:

"Why, they put the bees in there, and squeeze out the honey!"

And yet, some of us are just as ignorant about certain things as were the people referred to in the foregoing concerning common apiarian matters.

MR. H. G. OSBURN, writing to Gleanings in Bee-Culture, from Cuba, Oct. 10, 1900, after living there 12 years, advises any one contemplating bee-keeping in that country, to stay at home unless one can first go there and learn the difficulties to be encountered, and how best to meet them; also as to insects which delight to feast on "the rich red blood of the new comer, the very best stimulant for a good appetite." One year he extracted 73,000 pounds of honey from 600 colonies in five months.

Editor Root wisely says: "No one should ever think of 'pulling up stakes,' taking his all, and changing everything in a move to a new locality, much less go to a climate that is essentially different from the one in which he has been brought up."

Contributed Articles.

The Bee-Keeper and the Bee-Supply Dealer.

A Colorado subscriber wrote us as follows Oct. 16, 1900, and we referred his letter to several bee-supply dealers requesting their opinion on the subject:

TO THE AMERICAN BEE JOURNAL:—

I want to purchase supplies needed for 250 colonies of bees. I don't know where to buy, for the reason that the business must be transacted by mail, and the purchase made at a factory some hundreds of miles distant. One bee-keeping neighbor needs a larger lot than I do, so of course we shall join in getting a car-load direct from the factory.

We should like to see the goods, check the invoice, and verify the measurements or other qualities, of the different goods, then pay our money on the spot. I object downright to paying for a large bill of goods that I have never seen. But I can't help myself. When the goods are manufactured, then counted and shipt, I am not represented. My money passes beyond my control, and I am helpless.

I know all the current answers to my objection; but the answers do not satisfy. The seller is honorable; that does not meet the case. The shipping-clerk is careful; that does me no good after an error is made. An error in counting can be corrected, and always is, if it amounts to much; but the error of the man at the saw, if his spoiled goods get shipt, is never corrected. We get softly-worded apologies, but these do not meet the requirement.

In making a rule of business to protect the seller absolutely, we have left the buyer absolutely unprotected. Cash in advance is perfect protection to the seller, but it is rank injustice to the buyer. Cash on delivery of goods, duly examined, checkt out, and verified, is right.

Now, I submit that the bee-keepers, supply dealers, and editors ought to aggregate brains enough to make a rule of business that will protect both buyer and seller. Let us try the problem, at any rate. Will not the sellers of supplies lead the discussion? COLORADO.

We have received the following responses to the above, from some of our advertisers:

DEAL WITH RESPONSIBLE FIRMS.

I do not consider the dilemma of our Colorado friend a serious one. If he wishes to purchase a car-load of supplies the goods will be figured to him at a very low price for the consideration of a quantity order with the cash. This is greatly in the favor of the purchaser. If he places his order with a strictly responsible house his goods will be guaranteed as ordered, and if, by accident, an error should be made it would be corrected without expense to him. As a rule, manufacturers and supply dealers are very honorable in their dealings, and if there are any that are not they must eventually drop out of the business.

After giving this subject much thought I can see but one explanation, and that is, to be certain to place the order with a responsible firm. WALTER S. POUDER.

"COLORADO" TAKES A WRONG POSITION.

We note the copy of letter from your Colorado subscriber, which you enclose. We think he takes a wrong position in this matter, for this reason: If he wishes to purchase a car-load of goods, and can show as good financial standing in the business world as the manufacturer, then we would have no objection to sending him goods to be paid for when examined; but inasmuch as he is not in business, and not quoted in the commercial reference books, he could hardly expect that any one would trust him outright with a car-load of goods unless he could give satisfactory references.

We have never had any difficulty in satisfying our customers in the ultimate settlement of any disputed point, unless it may be with some one who has ordered only a few dollars worth of goods and is simply of that make-up that he would not be satisfied even if the whole amount of money he paid for the goods was returned to him.

Now we would suggest that if this party wishes to purchase a car-load of goods, and, as he says, he is willing to pay cash, that he send the manufacturer one-third or one-half the cost of the goods, and deposit the balance in some bank to be paid to the manufacturer when the goods have been received and found satisfactory.

THE W. T. FALCONER MFG. CO.

NO RULE CAN BE LAID DOWN.

There is no rule that can be laid down in this matter, as the matter of credit to a strange purchaser by a dealer depends altogether upon the information that the dealer may or may not have obtained concerning the purchaser. If dealers were compelled to trust everybody, they would have to ask a much larger price for their goods to make up for dishonest customers, and the honest ones would evidently pay for the dishonest ones. Purchasers of large orders who understand the rules of business do not hesitate to furnish good references, and that secures them a credit, so they can see the goods before buying. On a small retail trade, however, it is not advisable to make credit, as it involves too large a correspondence and too much book-keeping. Between a fair dealer and a fair purchaser, there is NOT trouble once in a thousand purchases, because the dealer is always ready to take back incorrect goods and replace them, paying freight both ways. When there is trouble it is when the dealer is not fair, or the purchaser himself is unjust or gets angry at an error, instead of peaceably representing the mistake which needs correction. But as I said before, it does not happen once in a thousand deals that both parties get so angry that they can not agree on a satisfactory solution.

As we cut up very little lumber ourselves, but buy much of our stuff already cut from large mills, we are both a buyer and a seller in the goods furnisht by "the man at the saw," and we must say that we find very little trouble in getting or giving satisfaction.

CHAS. DADANT & SON.

TRY TO DO AS YOU WOULD BE DONE BY.

Your Colorado correspondent is not so badly off as he imagines. In the first place it is not necessary or desirable even, for him to send his order hundreds of miles distant direct to the factory. He can place it with a large wholesale dealer in his own State, and receive just as good prices as tho he sent the order direct to the factory.

Again, if he is a reliable and responsible man, and can satisfy the one with whom he places his order of the fact, it is not necessary for him to pay for the goods until he sees them and is satisfied they are what he ordered. Neither the manufacturer nor the dealer wants to have any unfair advantage over his customers. The reason why the rule of "cash with order" has been adopted is not to take advantage of the buyer, but it is rather in his interest in preventing bad debts, thereby permitting of closer prices. If the manufacturer or dealer had the means at hand of ascertaining who were responsible and trustworthy and who were not, many people could be accommodated who, under the present conditions, find it less troublesome to send the amount with the order. We have the means at hand for men in the mercantile business; but not for farmers, professional men, etc., who make up the great majority of customers for bee-supplies.

Even if cash does accompany the order and it is placed with a responsible manufacturer or dealer, the buyer is not helpless if the order is not properly filled. Your subscriber seems to assume that the manufacturer would be more careful to avoid mistakes in filling the order if the payment was not to be made till after delivery and inspection—a proposition which is absurd from our point of view. We would have as much right to assume that the buyer would be more critical in his inspection, seeking for some basis as a claim for rebate, if he were allowed the privilege of inspection before settling for the goods. We have more faith in both classes—buyer and seller—than to ascribe to either such low standards.

Your correspondent says, "Errors of the man at the saw, if his spoilt goods get shipt, are never corrected." That is a pretty sweeping statement which we think he would find it difficult to prove. We can cite him to numerous cases in our experience that would induce him to materially modify it. We always try to do as we would be done by, whether goods are paid for or not. Occasionally a man takes so unreasonable a position as to make it impossible to satisfy him; but we usually satisfy our customers.

THE A. I. ROOT CO.

THE HONEST SUFFER BECAUSE OF THE DISHONEST.

I have carefully considered the letter by "Colorado." It would appear that he has had bad work unloaded on him, and had to put up with it as it was. Has he ever dealt with firms that have given perfect satisfaction in quality and workmanship? If so, why has he not stood by them? This question is for customers in general.

The fact of the matter is, that a large proportion of bee-keepers are always looking for the cheapest, and they always get it. A customer of mine bought nothing of me last season until September. I find he had bought elsewhere at a less price, but admits that my goods were best, and again orders of me at *my* price, without making a single objection, as "Colorado" does.

Every supply dealer and manufacturer should be able to establish a character beyond any question, by the best of reference. I deal with hundreds of customers every year—it is an easy matter for every one of them to get my standing within a week, but it is an utter impossibility for me to find out the character and standing of all my customers. If every bee-keeper were honest and fair, then it would be perfectly safe and right for any reliable firm to submit goods for inspection before payment. But it is a melancholy fact that bee-keepers have their regular proportion of people that are dishonest, unfair, and cranky, as *every* dealer knows. We must protect ourselves against this class by "cash with the order," and the honest must suffer for it, until after having establisht a character with a firm, we sometimes make exceptions. But this does not protect us against losing customers, and we are forced to do the right thing to keep the business going.

Why should *I*, as a "manufacturer and dealer," "contribute any brains to make a general rule of business that will protect both buyer and seller?" Why should I contribute to make it perfectly safe for my customers to order of my competitor? If I have given them satisfaction and no cause to complain, let them keep on buying of me, and if they want to try the other man let them take their chance, and not ask me to make it safe for them to try him.

If it were a rule to ship goods on approval, we would be at the mercy of dishonest people. What is to hinder a man from ordering from several concerns and selecting the best as he sees it, and refuse the others on some pretext? We would never know, and if we did would have no redress. Or what protection would we have against a chronic crank and fault-finder?

Such conditions as Colorado complains of, while they are liable to happen to any firm, and in fact do happen, are exceptions. Where they are a rule, they will soon establish a reputation as being unreliable. For the few exceptions that happen to good firms, it is hardly worth considering a general rule as proposed.

Let each firm do business on a principle that will satisfy their customers. Let each make it a rule for themselves. Instead of forcing the dishonest and unreliable to do right, let it be a "survival of the fittest." Let honest and legitimate competition alone force a man to do right, and be careful and considerate in dealing with his customers. Let him command their confidence, and let them freely give it. It is only those that mistrust everybody else that we ever have any trouble with.

I have for a number of years shipt all of my honey to one firm, for the reason that I have confidence in their honesty, and I let good enough alone.

The only general rule should be with the publishers. Hold them responsible for the character of their advertisers. It is an easy thing for them to do, and they can afford it considering what we have to pay. Let it be understood, that the appearance of an advertisement is a guaranty for the character of the firm. GUS DITTMER.

LATER.—I had thought that perhaps I had been a little too hard on "Colorado." I have just read the editorial on "A Dishonest Honey-Shipper," on page 691 (1900), and I am more than ever confirmed in the position I have taken. We must protect ourselves against that class of bee-keepers, and the honest must suffer in consequence. G. D.

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

Honey-Dew—Extracted-Honey Question.

BY C. P. DADANT.

I HAVE received the following to be answered in the American Bee Journal:

MR. C. P. DADANT:—Would you be kind enough to answer a few questions on the production of extracted honey?

1. In our locality we have an occasional flow of the so-called "honey-dew." Is there any danger of this being carried up into the extracting-frames, or will it be used up for brood-rearing before the white clover honey-flow? The honey-dew flow comes in early spring when the oaks are leafing. What I want to know is, Will it injure the grade of the white clover honey?

2. Do you put your honey, as soon as extracted, into cans or into a tank?

3. How do you clean extracting-combs after the honey-flow is over?

4. Is it best to leave them on the hives from spring until fall?—CARROLL CO., ILL.

1. Honey-dew is harvested and carried into the supers just like any other crop. In the extracting supers, and when there is no other honey harvested at the same time, it is all right, for it can be taken out and sold separately. It is certainly not good honey, but it is a "sweet," and much better than no crop at all. In 1890 or 1891 (I do not remember which), we harvested some 30 barrels of almost pure honey-dew, and in fact there was little else. This was sold by us at five cents per pound for baking purposes, and I believe also for the use of tobacconists. We have used it ourselves in wine-making and found it quite as efficient as any other grade of honey. But its taste, for consumption as honey, is not a recommendation. Some people call it "bug-juice," and seem to abhor it. Some of it, probably the bulk of it, is certainly a production of aphides, but undoubtedly also some honey-dew is an exudation from the tree, especially that which is gathered around the acorns.

The fact that honey-dew is the product of aphides should not condemn it for all purposes. If aphides are "bugs," so are bees; they are all insects, and the fact that one product is unpalatable does not make it entirely useless or worthless. And in the matter of edibles, much depends how we consider things. What we call cheese is called by the Chinese "rotten milk," but we think cheese a greater dainty than the young dogs that the Chinaman roasts as a delicacy.

One consolation is that honey-dew does not usually prove very plentiful in times of a great clover honey-flow. Then, the bees do not like it as well as clover honey, and they do not always gather it when there is a good flow of the better nectar. Yet there are times when clover and honey-dew are harvested together. This is unfortunate for the clover crop, for it does not take much of the poorer article to stain it in color, and to spoil the flavor. The only remedy is to sell the mixture at a lower price. But we must avoid keeping it for winter food, for there is not the slightest doubt that it is not as healthy as white honey, probably because it does not contain as much saccharine substance, or because it contains more foreign matter, which amounts to the same thing.

2. We have always practiced putting our honey, as soon as harvested, into barrels. Our reason for doing so is, that, with the large crops we harvest, tanks would be very cumbrous and very expensive. Then, we have never had any trouble with barrels, tho we see that many people complain of them. It is probably because we have always taken pains to secure first-class, dry barrels, such as have been used for alcohol or syrups, that are usually coated with some sort of glue on the inside, which makes them honey-tight. Too many people imagine that they can take a leaky barrel and soak it with water, as they would for wine or cider, and make it do for honey. This is a grave error. Honey absorbs moisture to such an extent that it will readily "drink up" the water contained in the wood, and thus will dry up the wood and leave the barrel leaky as before. We found, at our expense, that if you take and melt a lot of honey, and put it while hot, into even a very sound barrel, the heat of the honey will dry up the wood enough to cause it to leak at once, when it would not have done so if cold honey had been put into it. We prefer barrels to cans because we can handle the honey and draw it off into any kind of a receptacle when ready to retail it.

But we do not wish to speak against the honey-tank. Any apiarist who has sufficient room and can secure a good, big tank can place the honey in this and probably have it continue to ripen, after it is harvested, if the tank is kept in a warm, dry place. Such a tank should be made of galvanized iron or heavy tin, and placed where the honey may

be drawn off thru a faucet without having to move the tank. For a crop of a few hundred, or even of a few thousand, pounds, this is certainly good. We sometimes have unripe honey, and I know that such honey would be benefitted by standing in an open tank in hot weather. But if the crop is harvested at the right time, there is usually no need of artificial ripening. There are seasons when the weather is damp and the crop is so watery that it even ferments in the combs before harvesting. No amount of ripening will help such honey.

3. We always return the combs to the hives to clean them. If there is no honey in the fields at the time of extracting, we wait until evening to return the extracting supers, so that the bees may not be incited to rob. About sunset is a good time, and if any excitement prevails it dies out before any damage is done. The next morning all is quiet. In a good season, when the bees are still at work, the combs may be returned at once, that is, the combs of one hive, that have just been extracted, are exchanged for those of the next, and so on, till the end of the day.

We have tried keeping the combs over, from one year to another, without giving them back to be cleansed—we do not like it. They are sticky, and leak more or less; they attract mice and robber-bees, and the liquid honey that sticks to them is likely to sour. Then when spring comes, if we happen to put them on the hive during a day of short crop, we have some risks again from the excitement caused, and some danger of robbing.

4. Yes, if your colonies are strong, the combs are better off on the hives during the summer than in the honey-house or anywhere else. Even if there is no crop, the bees take care of them and neither mice nor moth can touch them. But we must not leave a lot of supers on a weak colony. That would be an error. Some judgment must be used in this as in any other thing. Let us always remember that successful bee-culture is made of many little details, and that the most careful man is also the most successful.

Hancock Co., Ill.

Queen-Rearing on a Roof—Feeders and Liquefying Granulated Honey.

BY JOHN R. SCHMIDT.

SO much has been said already about bee-keeping on a roof, and especially as this has been my subject quite often it is really becoming one of the "old chestnuts." It is about time this subject were buried, at least long enough to allow the readers to recover from the "too much of one thing" malady which creeps into our periodicals so often, not only in bee-literature, but in many others as well. For instance: Not long ago while talking to a photographer who has made a success of his profession, I chanced to ask him which is the best photographic journal publisht. Picking up one of the high-priced journals and turning to the frontispiece he said: "Here we have an example of composition and lighting that *we* buried 20 years ago, and it is the same with many of the articles as well—the rethrashing of the same old things until we actually do not care to read them." Now this is just the trouble with articles written on bee-culture—the rethrashing of the same old things until the advanced readers will not read them.

The only excuse I have for bringing an old subject before the readers is, that it introduces something which heretofore to my knowledge has never been attempted on a large scale, viz: The rearing of queen-bees for the trade. The illustration herewith is a photograph of the C. H. W. Weber apiary again, and also shows a few of the nuclei used last season to accommodate some of the queens. It has been suggested that the only sure way to get queens purely mated is to establish an apiary on an island, away from other bees, and even to accomplish this desired result a desert was mentioned. Probably this led to the idea of going to the other extreme and rearing them on a roof in the city; anyhow, this has proven to be a capital idea, at least in this city, where house-top apiaries are few and far between. Mr. Weber tested this method of queen-rearing last season and found it to work well, his business having developt to such an extent that a move was necessary to the roof proper, about 20 feet higher, where more room and sunshine could be given the bees.

The same idea of having the hives under cover has been adhered to, as this is important when located on a high roof where the wind has full sweep without a break, over the house-tops. It would become a troublesome and often disastrous undertaking to winter hives of bees under any other method, but as it is here, each hive nestles up to the second story in a solid packing both winter and summer. A thing of no little importance has been added to these hives. That is, every one has a permanent Doolittle feeder on the north side of the brood-chamber, and manipulated entirely from the outside thru a ½-inch tin tube closed with a cork. The arrangement is so convenient that one may feed any desired amount of syrup at any and all times; even in the coldest days the bees may be fed with the same convenience and safety as in summer, the packing not being disturbed in the least. Just pull out the cork, insert a funnel, pour in the feed, replace the cork, and we're ready for the next hive. This is almost convenience itself, and as near being the perfect way to feed as anything could be.

Another thing, every one of the hives under cover has three queens in each—*two young laying queens besides the old one*—living peaceably, too. I believe this was considered impossible heretofore. Can't tell you now (by request) how it is done, but it is an accomplisht fact—nothing theoretical about it.

LIQUEFYING GRANULATED HONEY.

The sale of liquid extracted honey is another specialty of Mr. Weber's, and to keep it in the liquid state is not an easy thing to accomplish, judging from the amount of granulated honey we see. This locality undoubtedly wants liquid extracted honey, and to make a success of the business we must give them what they want. Realizing this, Mr. Weber has devised a liquefying-tank with a capacity of one barrel at a time. The honey-chamber is surrounded by a water-bath, and the water is heated by a gas stove of special design. The exact amount of water in the tank can be read from the outside upon an automatic register, and when the water is too low a turn or two of a small wheel admits the water thru a separate hydraulic connection for this tank. Should the water supply become too great it may be turned into a drain-pipe, and needs no further care.

The temperature of the surrounding water is of great

Roof-Apiary of Mr. C. H. W. Weber, Hamilton Co., Ohio.

importance, and to know to a degree just how hot the water really is, is accomplisht by a thermometer on the outside which registers the exact temperature of the surrounding water in the tank. A glance at this will tell us just where we are "at" at all times, and there is no danger of overheating except thru carelessness. Any variation from the desired temperature is easily controlled by the perfect system of heating, and cold water supply. All this will be appreciated the more when it is said this tank is located in the store in full view of all customers and visitors, and its novel appearance excites much curiosity. The honey when reliquefied is run into bottles, corkt, and hermetically sealed while hot with a preparation which looks like beeswax, and something especially appropriate and pleasing when used for this purpose.

Is this tank a success? Well, I believe I can safely say it is. Two bottles of reliquefied honey which I saw had been on ice constantly for three months, and after this long time did not show the least trace of granulation. If bottled honey will stand so severe a test as this there is no necessity for educating the people to eat granulated honey. I was told a tank like this does not cost over $100, and it certainly would be a good investment for many. To see it one would think it cost a great deal more.

Such are a few of the good things Mr. Weber has thought out himself, and if he could be induced to describe them with his own pen I am sure he would put a few "wrinkles" into some of the most prolific writers.

Before closing I would like to say that some parts of this article may read like a big puff for Mr. Weber. To all those who think it such, I would say that I write only hoping to give something new and practical to the readers, and if a person deserves credit for such a thing it is no more than right that he should be mentioned in connection with it.

Hamilton Co., Ohio.

The Conklin Apiary in Rhyme.

BY MRS. JAS. R. CONKLIN.

In the village of Moravia this apiary's found—
Just out behind the barn are the busy workers 'round;
Bounded on the east by berries, and on the west by hens,
On the north by a vacant lot, a neighbor it defends.

The owner that's at work there, was born in '53;
He stayed on the farm with father until he married me.
We went to farming right away, instead of a wedding trip,
But he hankered so for honey that one day he bought a "skip."

You all know what the fever is that one swarm brings to men—
Well, I guess the only remedy is to get some more of them.
Mistakes, experiments, and even death didn't break the fever up—
Still on it raged till cooled by drink from a successful cup.

We finally gave farming up, and to the village came,
But his appetite for honey is very much the same.
Bee-keeping sirs—and also wives—those both short and tall,
When passing thru this place we'll be glad to have you call.

—Cayuga Co., N. Y., Dec. 19, 1900.

The "Bull-Dog Ant" of Florida in the Apiary.

BY PROF. A. J. COOK.

I HAVE been much interested in a correspondence with H. E. Hill, of Florida, regarding a large red ant of that State. Mr. Hill says he has not seen this species in Canada, Cuba, or in any section of the United States except Florida. These ants are very serious pests in the apiary, and their destructive habits make it imperative that the bee-keeper give them special attention. Mr. Hill states that he has lost as many as 19 nuclei in a single week from these predatory ants. This is true notwithstanding that the nuclei were fastened on the trunks of palm-trees quite a distance from the ground. A further precaution was also taken of placing a girdle of cotton wadding saturated with carbolic acid around the tree above and below each nucleus.

Districts not cultivated are fairly alive with these ants. They burrow deep in the roots of old stumps, under logs or other pieces of wood, in the grass, between the walls of buildings, in wood-piles, in ventilated hive-covers, beneath the bottom-board of hives, in the vacant space of a contracted hive, between the shingles of old buildings, in rotten portions of tall trees—in short, may be found in any place that affords them a harbor.

Mr. Hill has never counted them but believes that a colony may number two or three thousand ants. It is quite common, however, for a detachment of a few hundred to gather in any place affording a safe rendezvous. They are very ready to occupy any convenient harbor near the apiary. Hence the need of great vigilance on the part of the bee-keeper.

It is a curious fact that queenless colonies, or any colony in the apiary weak in numbers, are quick to be discovered by these marauders and are almost certain of attack and extinction. They always make their onslaught in the night-time; and even populous colonies not infrequently succumb to their attack.

I have long believed that ants are to the Arthropoda what man is among Vertebrates. Even the study of the ant's brain would establish its position at the head of its phylum. Its brain is not only large in proportion to its body, but has a kind of corrugation which reminds us of the convolutions of our own brains and those of the other higher mammalia. We know that ants sow seeds, clear the ground, gather and cure their grain, make slaves, and do many other things that indicate very high intelligence. We are not surprised, then, at what Mr. Hill writes of this apicide of Florida. He states that in the early evening, scouts are sent out in advance of the main army, which select the colony of bees to be destroyed and plundered, These advance agents may be seen running over the hive at the very dawn of the night. In such case, the colony of bees is usually doomed unless removed beyond the reach of the menacing host. Mr. Hill has frequently removed the imperilled colony with the result that an adjacent colony was attackt and destroyed.

This method has been the most successful of any tried. Mr. Hill reports that the bees show the utmost consternation when attackt by these ants. The chitinous crust, which in all ants is very hard, is specially so in the case of this bee-destroyer of Florida. The ant has immense strength, is very agile and alert, and, by use of its sharp, scissors-like jaws, is sure of victory. The hum of distress, and even of despair, made by the bees is so characteristic, that it would be quickly recognized even by the inexperienced.

As before stated, these attacks are always made in the night. During the time of the contest, thousands of ants may be seen running over the ground and the hives near by. The ants grasp the bees and the two may be seen whirling, one over the other, until the bee is hurled from the hive maimed or dead. This hand-to-hand conflict, if we may so call it, goes on until all that remains of the bees is, to quote Mr. Hill, "a crawling, wreathing mass of dismembered bodies drabbled in perspiration and honey." The victory is sure to come to the ants but is not without its fearful sacrifices. Hundreds of the ants are disabled or killed in the battle. These are mixt with the perishing bees and reach high up from the bottom-board between the combs. After the terrible carnage, the remaining ants feast upon the honey which is left in the comb and in the honey-sacs of the dead bees.

The immense numbers of these destroying ants can be easily imagined, as Mr. Hill states that he has burned thousands of colonies during the past two years. They seem to be proof against the use of bi-sulphide of carbon. When this liquid is used, they pick up their eggs and move to new quarters. The free use of gasoline and the torch seems the only practicable way to destroy the destroyers. Mr. Hill has invented a very ingenuous way to protect his queen-rearing colonies from these ant banditti. He places them on a stand, the legs of which are so turned that a little basin encircles each leg. This little basin is made impervious by coating it on the inner side with paraffine. By keeping this full of kerosine or carbolic acid, the ants are unable to pass up the legs and so can not reach the bees. Of course the liquid has to be replaced as it evaporates.

Like all ants, this "bull-dog of Florida" has a sort of scale or hump on its narrow thorax. There are two sizes of the ants, the ordinary small workers and the much larger soldiers. The heads are very large, the eyes round and small, and the jaws very strong and sharp. The entire body has numerous hairs. Except the eyes and the abdomen of the soldiers, and the tip of the same in the smaller workers, which are black, the entire ant is red. As Mr. Hill has not sent me any specimens of the queens, I do not know how they differ from the others except as very likely they are larger and will show stubs of wings. The queens of all ants, as also the males or drones, have wings and fly

forth to mate. After mating, the workers or soldiers bite off the wings of the queen so that she is ever after held as a sort of a prisoner in the ant household where she performs no other duty than to lay eggs.

I have been explicit in this narration as it is a remarkably interesting case. Ants for the most part do little harm. When we see them visiting trees we may be almost assured that there are either scale-insects or plant-lice on the same trees. These scale or plant-lice secrete honey-dew and it is this which attracts the ants. The ants, then, do no harm here except, perhaps, to protect the scale and plant-lice from birds which are slow to visit plants on which ants abound. We all know that ants sometimes bore into trees. This tunneling, however, is rare except in trees more or less decayed. In such cases, however, the tunnels are often very numerous and the carving done by the ants is interesting to study. In California, where the ants are near trees, they sometimes do damage by destroying foliage. I have not seen this but have it from what I consider good authority.

The most grievous offense that the ants commit in our country is that of entering our houses and making themselves a nuisance on the lawn about the house. Strings dipt in corrosive sublimate will keep them from the houses, while burning with gasoline or suffocating with bi-sulphide of carbon is the easiest way to rid the lawn of their presence. Los Angeles Co., Calif.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Moving Bees in Winter.

I have an apiary of about 50 colonies. Would you advise me to move them now? VIRGINIA.

ANSWER—Without knowing more about the case it is hard to answer. If you yourself expect to move, it will probably be more convenient for you to move the bees also. If you remain where you are, and the pasture is very much better at some place two or more miles away, it may be advisable to move the bees. If you expect to move the bees, and desire only to know whether the present is a good time to move them, it may be said in reply that it will be better to wait till the bees begin to fly in the spring. Still, if it is much more convenient to move them now, they may be moved carefully without danger of much harm.

Getting Straight Brood-Combs—Moving Bees.

1. As I am a beginner in the bee-business, I would like to know what is he best way of getting straight combs in the brood-frames? I have 20 colonies, and I wish to run for extracted honey another year. The past year I workt for comb honey, so the brood-frames are in such a shape that it will be difficult to extract a great many of them that I would like to get into.

2, And, furthermore, is it best to contract the space in the hive, when there is an extra frame in the hive that isn't filled?

2. After a swarm issues, can I move the old colony, say a half mile, without injuring them, to a different place, supposing that the swarm that issued would better be put back on the old stand? The reason that I ask is, I want to have them on the opposite side of the river. I have 20 colonies. CALIFORNIA.

ANSWERS.—1. The very best way to have combs built straight is to fill the frames with comb foundation. That makes a sure thing of it that the center of the comb will be in the center of the frame, and you may make sure at the same time of having all worker-comb.

2. It is not desirable to have any more space in the hive than can be filled by the bees, especially in winter, for it costs the bees extra to keep up the heat in that extra space.

3. Yes, it will be all right to move the mother colony away a half a rod or half a mile. If you want to have the moved colony pretty strong, move it immediately after it swarms. But it is generally considered good practice to let the old hive stand close beside the swarm for a week and then move it. That makes the swarm very strong, but of course the mother colony is just so much weakened. The object desired is to prevent a second swarm, and also to make the first swarm strong for surplus. Moving the swarm a half mile will be much the same as moving it a short distance, only there will probably be not quite so many bees leave the old hive for the swarm, if the old hive is moved a long distance.

Storing Supers—10-Frame vs. 8-Frame Hive.

1. I am anxious to fix my surplus honey arrangement during the winter, but having been deprived of the use of the building I used for a shed, I have no place to store my supers where the temperature does not go much below freezing—in fact, I must leave some outdoors, Thru the kindness of the "gude wife," I can work in one end of the kitchen, but must store my traps elsewhere. Will freezing injure the foundation in the sections, provided they are kept dry and in the dark? By an eye of faith I see a shop and honey-house after next summer's big honey-crop!

2. Why is a 10-frame hive better for extracted honey than an 8-frame, as you advise New Jersey, on page 25? How about two 8-frame hives with queen-excluders between? HOOSIER.

ANSWERS.—1. Don't be worried about the freezing. It's probably a good deal colder here than where you live, and I've had thousands of sections filled with foundation stay in a place as cold as outdoors not only all winter but two or more winters, and I don't think they were hurt by it.

2. One reason for preferring the 10-frame hive is that it is safer for winter. There is more room in it for winter stores. There is not the same reason for restricting the brood-nest at any time for extracted honey that there is for comb honey. The bees will not do anything at comb honey in the supers so long as there is room below. But it is not quite the same with extracting-combs above. If they have old black combs above they will store it in them nearly if not quite as readily as below, and even if the extracting-combs are new they will prefer them to sections divided up into little compartments. Of course, you will need more than one story of 10 frames in the harvest, and you will be safer from having the harvest interrupted by swarming than if the queen were confined to 8 frames.

Mating of Queens—Growing Plants for Honey.

1. I have been reading "Langstroth on the Honey-Bee," and I find that it says that the queen mates with the drone while on the wing. I do not find that it states anywhere that queens mate in any other way. I have six clipt queens, and others that seem to be too large to fly, and I would like to know if they will be all right for breeding in the spring.

2. I wish to purchase some honey-plants in the spring, and would like to know what would suit this climate best. What kinds of clovers would you advise, and what kind of garden flowers? WEST VIRGINIA.

ANSWERS.—1. It is exceedingly doubtful whether queens mate any other way than on the wing. If the wings of a queen are clipt before she flies on her wedding-trip, or if by any means the wings of a virgin queen are bad so she can not fly, you may better kill her at once; she is utterly worthless, as all the eggs she lays will produce only drones. The six clipt queens are all right for the next spring, if they were all right in the fall, for a queen does not need to meet the drones each year, but only once for life.

2. Your best chance will probably be among the clovers. Alsike clover is one of the best, especially if the location is somewhat low and wet. Sweet clover will do almost anywhere, and will do well on poor land and on stiff clay. Very likely crimson clover may prove a success with you. It is very beautiful when in flower, and would be an ornament in the door-yard. Crimson clover is not usually sown in the spring, but it may be worth while for you to try some at that time, as in that case you will be a little ahead if it succeeds.

The Premiums offered this week are well worth working for. Look at them.

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 55).

DISCUSSION ON SHIPPING HONEY CONTINUED.

Mr. Aikin—I am glad Mr. Abbott has made his speech; I know now where Colorado, Arizona and Utah people can sell their honey.

Mr. Moore—I was going to ask him how he sold 30,000 pounds of honey a year?

Mr. Aikin—Don't bother yourself about that, Mr. Moore. In the first place, if we had barrels, we would have to let the Wisconsin people ship to Chicago, and from Chicago to Denver, and from Denver to Loveland; what would be the freight rate? Not less than first-class, or once and a half, or double first-class.

A Member—Couldn't you ship barrel-staves without all that freight?

Mr. Aikin—We would probably have to pay the freight on them just the same; whereas the tin comes to Denver and our cans are put up right in Denver, and distributed thruout the State and adjoining territory, and we have new tin cans. I don't know of anybody in our part of the country who puts up honey in second-hand cans. Last year we put our honey in five-gallon tin cans, otherwise called 60-pound cans. Those cans are made, it is true, out of light tin, and unless they are securely made, you can burst one of them almost as easily as you could roll off a log. When the honey is quite liquid, you put that honey into the cans and let it stand for four weeks, and then you can ship it across the continent and back again and it will be there just the same; it will candy solid. At least all the honey I ever produced in Colorado, and that has been a good many car-loads, would candy within a month, and will candy as solid as any butter or lard you ever shipt. But why put it in a 60-pound can? What trade are we catering to, anyhow? It has come out at different times here in this convention, and in other ways, that the great bulk of the honey we have been producing and taking such pains to get nice, good honey for people to eat, goes where? Into tobacco, into whisky or liquor of some kind or other—I don't know what all it is put into. A representative from one of the Chicago honey commission firms told us last year that the great bulk of the extracted honey they bought and sold did not go on the table as a table syrup. If that is true, use your old, dirty barrels if you wish to, but we in the West who have a good table "syrup" that can't be excelled anywhere in the United States, propose to put our honey into cans. It is the cheapest package we can get. Every old alcohol and glucose barrel is pickt up by the farmers and others who want to take water on their ground for drinking purposes. The cheapest barrel we could buy would cost us $100, it wouldn't hold anything except water, and not always that. It is true that we could take the barrels and put them out there and use them. I made a piece of furniture in Iowa out of walnut, and it was put up several years before it went to Colorado. It stood all right until I moved it to Colorado; after I got it in that dry climate, the cracks opened up until you could stick your finger thru. That is what the barrels would do if you shipt them from a damp climate and let them stand a little time without redriving the hoops. I tried that once on some barrels I had in Iowa in use for three or four years. After they had stood in my shop, I filled them with honey, having the hoops driven tight and putting on iron hoops and drove them until I was afraid I would burst the hoops, and then shipt them to Colorado and let them stand in the sun a few days, and then went around and could lift the hoops off from the barrels with a finger. If the honey had not been candied it would have been out on the ground. That cuts but little figure with Wisconsin and New York people, and you who have barrels and can use them and ship them to the factory. I am producing honey and working on a different line altogether. Mr. Moore wanted to know how I could sell 30,000 pounds of honey in my local trade. I am making it a staple, and as a staple it must compete with other sweets of equal grade—that means granulated sugar with some water poured into it to make a syrup. I am not catering to the fancy trade, but when the poor people of this country buy our extracted honey and use it as a syrup, they don't want to buy a barrel of it, and they don't want it to be expensive, either. They don't want to pay 25 cents, or even five cents, for a package that will hold five cents worth of honey. I am going to hit Mr. York real hard while I am on the floor, and if he undertakes to get after me, I want you to get between us. Some of you remember reading in the American Bee Journal an editorial by Mr. York criticizing those of us who want to put our name and address on our package, and he says, "Does the farmer put his name and address on the bags of wheat, and on his potatoes, and on his horses and cows?" taking the whole list of them, pretty much. "Does he put his name and address on them when he sends them to market?" The case isn't applicable at all; his argumeut is altogther lame. The wheat the farmer sells goes into a big bin with 1,000 other farmers' wheat; it is shipt in a car-load to the mill, the miller grinds it, and when it becomes flour, every sack of it goes out with the miller's brand on it, and it remains on it until it goes into the family to be consumed. When Mr. York buys my honey, if he buys it in barrels or 60-pound cans, and puts it up in little packages to sell to the retail trade, it doesn't make any difference whether I have my address on it or not, it becomes then Mr. York's honey; but when I ship my comb honey that goes thru his hands to the retail trade, and is never changed from the moment it leaves my hands until it reaches the retail store, my name has a right and my address has a right, to be on that package and remain there until it goes to the consumer, or until it gets into the store. I have a right to have my name and address on every separate section, and in proof of my position I will ask you if you can find any package whatever in foods that is sent out in any other way. The name and address of the packer or manufacturer is on that goods whenever the goods goes right thru to its destination in the original package; butter is so branded, eggs are not of course, because an egg is an egg, and it is out of the question from the nature of the product. Yet in the city of Denver, there is a firm, I have been told within the last few days, who are making a specialty of strictly fresh eggs, and when these eggs go out to the different houses around the city, they go out with the name and address of the firm putting them up and guaranteeing them strictly fresh and all right. Now, I will not take any further time on this particular phase of it. But why continue with the large package? why waste any more time with that? Do as I have been doing—put your honey into the small retail package right the first thing; put packages up in dozens, or any other way, just as all kinds of fruit and other things, and put them up and send them right to the consumer and let them be used as a table syrup. My honey is put in lard-pails 3, 5, and 10 pound sizes, holding 4, 7, and 14 pounds of honey. I put that honey into the pails at the honey-house. I refuse to sell it, except to people right by me, until it has candied solid; then I take it to the stores, and the store salesmen in my town to-day don't want liquid honey, because they will pick it up and tip it on one side and read the honey-label and then set it down and go off. Every customer who wants to look at it will do the same thing. Directly the honey is oozing out around the rim. When it is candied, there is none of that trouble. I am sorry my honey isn't here. I made a shipment by freight but it has not yet arrived; otherwise I could show you all of this. I have the printed instructions right here, how to melt that honey, and the people can learn, and will learn, and when they come to the store they want a package that they can take home, some syrup to go on their table as a staple, and they don't want to pay any fancy prices for the package; it is simply to put on their tables. They want it in the cheapest package they can get, and so when it is in a candied condition they take it home and melt it, and everyone is better pleased. Some like it better in the candied condition, and want it put up in cans. I put it up so they can have it either way. If they want it they can take it in the pails and put them in their wagon and go home; it can be used in town or country, or in the mining camp; outing parties take it because there is no leakage, no bother getting to their camping-ground. Let us quit looking so much after the manufacturing trade and begin to put our honey onto the table of the family, and we will do two things—we will benefit the family, and we will take a lot of this honey away from the manufacturer, and they will be com-

ing after us to get our honey, and I think we will increase the demand. I have been selling honey very cheap—I won't tell you how cheap; I have been selling it very cheap, and some people said to me, "You are selling honey too cheap; you are killing the market." I said, Which would you rather I would do? You know if I send my honey to Denver I will have to compete with you? Do you want me to sell at home, or sell in Denver? I say the question comes to this point, if I have a crop of 30,000 pounds for sale, and enough to make the total crop right around a little village of 2,000 population—making the total crop 50,000, is that community going to consume 50,000 pounds of honey at 10 cents a pound when they can buy granulated sugar at 5½ or six cents a pound and make a splendid table syrup? No, sir, they will not. Mr. Abbott is catering to fancy table trade; Mr. Moore is doing the same thing. Let them put up glass packages, if they want to, for people who are willing to buy fancy goods; let a panic come, and there comes a time when you can't sell to that trade; but the family buys every day in the year; they want it all the time, whether times are good or bad. The family trade is best to depend upon. I said to our Denver people, If I put my honey on the market at 8, 9 and 10 cents a pound, as you want me to, the result will be the people are going to buy the sugar and leave the honey with me; then I have got to ship it. What will I do? Send it down to George W. York, of Chicago? If I ship in less than car-lots it costs me 97 cents a hundred pounds to get it here, and I pay freight on the package—barrels or whatever it is. Mr. York would probably want to pay six cents there for it, or seven in Chicago; my package costs me ¾ of a cent; how much money have I left for that honey? If I ship to the general market it will net me, less freights, commissions and package, about 3 to 4 cents; and I said to the Denver bee-keeper, Would you rather I would ship my honey and get 4 cents a pound, or sell it at home for 6 cents a pound and keep it at home? I am tending to my own business, I am not bothering you; when you can get more right at home than you can sell, don't put it on the market to compete with other people who haven't the local market, or can't get it. (Applause).

Continued next week.)

Report of the California Association.

BY O. L. ABBOTT.

The members of the California Bee-Keepers' Association met at Selma, Fresno Co., Jan. 7th, and elected a board of directors, consisting of the following members: Dr. J. P. Johnson, J. W. Paine, J. S. Crowder, B. D. Vanderburgh, and C. M. Davis.

The following were elected as officers for the ensuing year: President, Dr. J. P. Johnson; 1st vice-president, J. S. Crowder; 2d vice-president, C. M. Davis; secretary, Prof. C. S. Taylor, Jr.; corresponding secretary, O. L. Abbott, of Selma; and treasurer, J. W. Paine.

Pres. Johnson read the annual report, showing among other things that the directors had purchast a car-load of cans and a car-load of cases at a saving to its members; that the Association had received and sold 118,732 pounds of extracted honey at 6 cents a pound; and that it had manufactured the wax into foundation for its members at a low cost per pound. The members showed their appreciation by a vote of thanks, and by re-electing the old board. Mr. Grimes was unable to serve as director another year, so Mr. Davis was elected to fill his place.

A committee consisting of J. H. P. Stephens, Prof. C. S. Taylor, Jr., and O. L. Abbott, was appointed to revise the constitution and by-laws, and report at the next meeting.

The meeting adjourned to the first Monday in February.

O. L. ABBOTT, *Cor. Sec.*

Fresno Co., Calif., Jan. 8.

The Chicago Convention Picture is a fine one. It is nearly 8x10 inches in size, mounted on heavy cardboard 10x12 inches. It is, we believe, the largest group of bee-keepers ever taken in one picture. It is sent, postpaid, for 75 cents; or we can send the American Bee Journal one year and the picture—both for $1.60. It would be a nice picture to frame. We have not counted them, but think there are nearly 200 bee-keepers shown.

The Afterthought.

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Richards, Ohio.

"DRONES" AT THE WORLD'S CONVENTION.

The world's bee-convention, as reported by Mr. Dadant, page 8, was quite an affair, even if it didn't amount to many bushels of beans to be stored in the elevator where we keep all our knowledge. It is something, however, to be informed that colonies with many drones store 5½ percent less honey than colonies with few. (This was only one trial involving but 10 hives.) For you know that things imported from far are worth more than home-made articles. Interesting to see that *some* foreign opinion thinks 5½ percent not enough advantage to proscribe the drones on. Let me state the drone's strongest case, as it looks to me: When a young queen flies, if she comes within sight of 10 drones there is a sort of selection—the one that gets ready first is the mate—and that one is presumably the *best* one in the lot, the one that will transmit the most vigor. Now if she comes in sight of a hundred drones there is still selection, chance good for the best one out of the hundred being the parent. And to be sure of the queen's being seen by a hundred drones whenever and wherever she may fly, there needs to be lots of them. (Incidentally, I may remark that this consideration makes me very apathetic about the search for some way to control mating. We can not equal nature's selection if we had control, because we can not see which drone is the best.)

There is another thing not always thought of. If drones are few there is little or no drone-comb in the brood-chamber. This is not necessarily so, but practically it will generally be the case. With no drone-comb below we must expect more of it built in the sections. (Wish I knew more positively about this.) But why care how much drone-comb there is in the sections? I am not *sure* on this point, either, but presumably the drone size requires so much longer an arch of capping that it does not lend itself so well to that beautiful and beyond-all-praise style of finish in capping which is one of the important things that we want to work towards. When bees do the best their art admits of, even dark-colored honey looks temptingly white—almost too dainty to touch with a handkerchief—the honey itself not being seen at any point.

COMBS OF HONEY FOR WINTERING.

Mr. Aikin, usually reliable, seems to me to be getting, for once at least, into the doubtful regions where he says, page 821, that four solid combs of honey are better to winter bees on than the same honey in eight combs. I believe I would choose the latter of the two—with a preference for six combs, with a generous space on four of them in which the cells were either empty or only half full. It certainly looks as tho bees were not quite satisfied with their position on sealed honey. And such a solid slab of comb, with one edge of it nearly down to 32 degrees—we can hardly see how it can help being a needless extracter of animal heat.

NO U. S. HONEY AT THE PARIS EXPOSITION.

Not a pound of United States honey at the French Exposition! Doubtless the gazing public did not cry for the lack of it—still, neither the fact itself nor that consideration puts us in a swing-your-hat frame of mind. Suitable thing to put in our smokers and smoke it. Page 822, (1900).

CONDITION WHEN COLONIES BUILD UP RAPIDLY.

"Workers with full sacs most of the time." Yes, sir; that's it, Mr. Aikin. That is the exact and definite condition under which a colony of bees builds up rapidly. A little money (or honey) in *general circulation* better than much carried by a few individuals, or lying in bank. It's all well to say "honey coming in," it's all well to say "plenty of stores on hand," it's all well to say "feed;" but if either of these exists where half the workers are on moderate rations, and not handling honey themselves, things will continue to go slow. At odd jobs, from time to time, let us have the terms of our talk brought to terms of precision, instead of so much allowing of them to "lie around loose." Page 7.

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Gleanings, Review of Reviews (new), McClure's, and Success	$5.50	$3.50
" " " " and Cosmopolitan	5.50	3.50
" " " Pearson's, and "	5.50	3.25
" Success, McClure's, and Cosmopolitan	4.00	2.75
" " Pearson's, and McClure's	4.00	2.75
" " Cosmopolitan, and Pearson's	4.00	2.50
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1. Gleanings in Bee-Culture, one year, $1.00.
2. If you want only one additional paper, add the price found in the top of the column in which that paper appears. For instance: Gleanings, and Success (2d col.) will cost you $1.50.
3. If you want several papers in addition to Gleanings, each one may be had at the price named at the top of the column. For instance: Gleanings, Success (2d col.) and Rural New-Yorker (3d col.) will cost you $2.25.
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CONDITIONS.—Offers subject to withdrawal without notice. Subscriptions to the Review of Reviews, Youth's Companion, and Country Gentleman must be strictly new. Neither the Review of Reviews nor Post Fountain Pen will be sent in any combination amounting to less than $2.50.

THE A. I. ROOT CO., Medina, Ohio.

GENERAL ITEMS

Bees in Fine Condition.

I have about 50 colonies of bees all put away in the cellar in fine condition, and expect they will come out all right in the spring. E. C. SMITH.
Ashland Co., Wis., Jan. 14.

Finding a Queen.

I see by page 41 that our good friend, Mr. E. E. Hasty, evidently misunderstood my statement on page 792 (1900). What I wanted to say was that I always found the queen on the combs on that side of the hive *not* occupied by the ventilating bees at the entrance. Thus while the queen is pursuing her accustomed duties she enjoys the benefit and the comfort of a well-ventilated room without being exposed to the direct draft of cool air which is forced into the hive by the fanning bees.

I am fully satisfied that this means of finding the queen has real merit when rightly understood.
W. W. MCNEAL.
Scioto Co., Ohio, Jan. 18.

Poorest Season in 23 Years.

My 250 colonies are all packt on the summer stands, as usual, and seem to be wintering nicely. The past season was the poorest that I have had since I have been keeping bees (23 years), as I secured only one barrel of surplus honey.

The prospects are good for the coming season, and if promises are realized I am making preparations to increase from 100 to 150 colonies.

I have never undertaken anything that has paid me better than bee-keeping, for the money and time invested.
EMIL J. BAXTER.
Hancock Co., Ill., Jan. 11.

Bees Did Well—Honey for Smallpox.

My bees did first-rate the past season, considering the care they had, as I was away for three months during the best of the honey-flow. My children took care of them, and took off 120 pounds per colony, and left enough in the hives for winter stores. The winter has been dry, not very stormy thus far, and it has not been very cold; the bees have been out nearly every day, and the prospect is good for the coming season.

A honey-cure recipe for smallpox was publisht on page 40 (1897). I saw an account of it in another journal later in the year, but did not get the one that had the cure in. If you would please be kind enough to reprint it it would be doing the people in this part of the country a great deal of good.

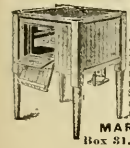
The Bee Journal comes to me every Sunday morning, and it is a very welcome visitor. JOSEPH A. LEWIS.
Navajo Co., Ariz., Jan. 17.

[The smallpox cure mentioned by Mr. Lewis, reads as follows:—EDITOR.]

Experiments made with smallpox patients in Oaxaca, show that by administering honey diluted in water to smallpox patients the pustules of the

DR. PEIRO
34 Central Music Hall, CHICAGO.

Please mention Bee Journal when writing.



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WM. HENRY MAULE, Philadelphia.

3D4t Please mention the Bee Journal.

worst variety will disappear, and the fever is immediately diminisht. The matter attracts much attention. The remedy was accidentally discovered by a young girl who was down with the disease, who secretly refresht herself with honey and water with the astonishingly curative results, and it was then tried on soldiers sick with the disease.

Bees Seem to be Wintering Well.

There has not been much winter here as yet, but it has turned colder to-night, with prospects of a big snowstorm or ice spell. Bees are wintering well, seemingly.

J. WILEY MOUNTJOY.
Anderson Co., Ky., Jan, 17.

Wintering Bees in a Cyclone-Cellar.

I have 49 colonies in winter quarters —30 in my cyclone-cellar, and 19 in a neighbor's. I put them away about the first of December, and they appear to be doing well. I find the cyclone-cellar the best place to winter bees, as I have lost only two colonies in six years, and they were weak when put away. Last winter I put 10 colonies into the house-cellar, and lost three of them after taking them from the cellar, and the others were weak and didn't do much all summer.

The bees stored very little spring honey, but the fall flow was good. I got 1,500 pounds in all, over 900 pounds being comb honey. My best colony stored 169 sections, and the next best 105 sections. No. 1 was an old colony, and did not swarm during the summer. No. 2 was a swarm which came off June 18th; but I had 11 colonies that did not give me a pound of honey.

I use the 8-frame and the 10-frame

Sharples Cream Separators: Profitable Dairying

Fred W. Muth & Co.

FRED W. MUTH. CHARLES J. HAUCK.
P. W. J. HAUCK.

One Minute, Please!

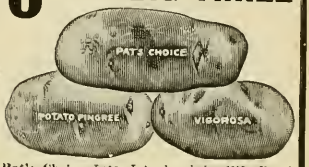
We beg to announce that we have gone into the bee-supply and honey business.

Being **practical bee-keepers who understand the supply business thoroly,** and know pretty well the wants of the bee-keepers, the firm will give its exclusive attention to the bee-supply business and the promotion of the sale of honey in this vicinity.

After visiting all the important manufacturers, we have selected a line that will give the best of satisfaction. Our location — adjoining the Suspension Bridge—is most central, and being only four blocks south from the Fountain Square, is right down in the business part of the city, and especially handy for our Kentucky friends; our facilities for prompt service are perfect; and our prices are consistent with good business judgment. Our CATALOG has many new features. Send us your name so we can mail you one.

FRED W. MUTH & CO.
Southwest Cor. Front and Walnut Sts.,
CINCINNATI, OHIO.

OLDS' BIG THREE



Pat's Choice—Late—Introduced in 1900. Heaviest yielder—Handsomest—Best quality. **Vigorosa**—Medium early—Introduced in 1897—Most profitable. Outyields any other early. **Pingree**—Extra early Introduced in 1899.—Smooth, Handsome, Prolific. All other leading varieties—Fine stock, low prices. Catalog free, shows full line. Also field and garden seeds. Send to-day.

L. L. OLDS, Drawer D, Clinton, Wis.

We Can't Give Away Anything

You pay for what you get in this world. You understand that. But as a business proposition we want you to try our great medicine for Indigestion, Constipation, Biliousness, Sick Headache, Insomnia, "the Blues," and like complaints—

Laxative NERVO-VITAL Tablets

We know you won't buy it, until you know something about it. The best way to get you to know how good it is, is to let you try it. That's what we do. Send Stamp for "Health" booklet, and we will send you a free sample package, that you may try it yourself. We know you will always keep it in the house, if you once try it. What fairer offer could we make? At all Druggists—10 and 25 cents.

Handsome Stick Pin FREE!

If, instead of sending for a sample, you send us 25c we will send you "Health" booklet, a 25c box and a handsome gold stick-pin, set with emerald, ruby or pearl, warranted to be worth double the money. Order by number. This is an extra introductory offer. Only one pin to one person. If unsatisfactory, money returned. Send now while the offer is good.

MODERN REMEDY COMPANY, KEWANEE, ILLINOIS.

[*This company will do exactly as it promises.—Editors.*]

Please mention Bee Journal when writing.

BEE-KEEPERS' SUPPLIES

THE FINEST IN THE WORLD.

Our New 1901 Fifty-Two Page Catalog Ready.

Send for a copy. It is free.

G. B. LEWIS COMPANY....

WATERTOWN, WISCONSIN, U. S. A.

WHY NOT BE SURE ABOUT IT? Sure that an incubator will hatch before you pay for it. We will send you our **New Premier Incubator** **On Trial,** you pay for it after thoroughly testing it. Put eggs in it, make a hatch, then you'll know if you want it. First prize at World's Fair, Medals at Nashville, Omaha & Nat.'l Sport. Expo. Sole makers of Simplicity Incubators. Catalogue and "Poultry Helps" for 8c stamps. COLUMBIA INCUBATOR CO., 5 Water St., Delaware City, Del.

"Profitable Poultry Keeping IN ALL ITS BRANCHES." This is the title and theme of our new Year Book. Contains 192 pages, 8x11 in.; 200 new and original illustrations of best poultry farms, buildings, etc., in the country. Deals with every phase of the poultry industry in an instructive and profit bringing way. Treats also of the famous non-moisture, self-ventilating and regulating **CYPHERS INCUBATORS,** guaranteed to outhatch any other in three or more tests or money refunded. Sent for 10c in stamps. Ask for book 50. Circular and prices free. Address nearest office. CYPHERS INCUBATOR CO., Chicago, Wayland, N.Y., Boston, Mass

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TREES Fruit and Ornamental, Shrubs, Roses, Vines, Plants, Bulbs, Seeds. The best by 47 years test. 1000 acres, 40 in Hardy Roses. 44 greenhouses in Everblooming Roses and Plants. Mail size postpaid, safe arrival guaranteed, larger by freight or express. Try us, our goods will please you and direct deal will save you money. Correspondence solicited. Valuable catalogue free. **STORRS & HARRISON CO., Box 286 Painesville, Ohio.**

GINSENG $10. in plants produce $4,000.00 in 10 years. Book telling how to grow it, 4c Lakeside Ginseng Gardens, Amber, N.Y

52A13t Mention the American Bee Journal.

POULTRY BOOK FREE, 64 pages, illustrated with 3 mos. trial subscription to our paper, 10c INLAND POULTRY JOURNAL, Indianapolis, Ind

Please mention Bee Journal when writing.

For Sale At a Bargain! A GOOD HOME, including 100 colonies of bees in Langstroth wired frames. Address,

3A3t P.O. Box 232, Springville, Utah.

Please mention Bee Journal when writing.

1901—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog.

M. H. HUNT & SON, Bell Branch, Wayne Co., Mich.

BEES QUEENS Smokers, Sections, Comb Foundation And all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ills

Bee-Supplies

We are distributors for ROOT'S GOODS AT THEIR PRICES for southern Ohio, Indiana, Illinois, West Virginia, Kentucky, and the South.

MUTH'S SQUARE GLASS HONEY-JARS, LANGSTROTH BEE-HIVES, ETC.

Lowest Freight Rates in the country. Send for Catalog.

C. H. W. WEBER, Successor to C. F. MUTH & SON, 2146-48 Central Ave., CINCINNATI, O.

Please mention Bee Journal when writing.

THE POPULAR BUFFALO ROUTE this summer on account of the 1901 Pan-American Exposition will be the Nickel Plate Road. Countless thousands will visit this one of the greatest expositions of modern times. The Nickel Plate Road will be the popular line. The excellence of its service is well recognized by the traveling public, and the reputation of its train employees in their uniform courtesy to passengers is well known. When you go East see that your tickets read *via* the Nickel Plate Road. Write, wire, 'phone or call on John Y. Calahan, General Agent, 111 Adams, St., Chicago, Ill. 2-4a3t

Farm Raised Poultry Pay the buyer because they are strong, vigorous, healthy and will breed healthy stock. All **FARM RAISED** Our large stock we ship is Poultry Guide explains all, and tells how to make big money with poultry. Worth $25. Sent for only 15c. JOHN BAUSCHER JR., Box 94 Freeport, Ill.

For Sale! 18 Colonies Italian Bees; also quantity new hives—foundation—extractor and supplies. W. E. PICKETT, 22nd & K sts., So. Omaha, Neb.

4A2t Please mention the Bee Journal.

GREIDER'S POULTRY always do well. 50 standard varieties. Handsomest poultry book of the season for 5c stamps. Full of money-making hints. My birds are winners. B. H. GREIDER, Florin, Pa.

For Sale PART OF QUEEN-REARING APIARY, consisting of bees, bee-hives, nucleus-hives, queen-cages, etc., all in fair condition.

5A2t E. W. HAAG, Canton, Ohio.

Wanted A Bee-Keeper to run my apiary here in the Arkansas Valley—a man that can do the work as directed to do. Address, ELI SHOEMAKER, Las Animas, Colo.

5A2t Mention the American Bee Journal.

Wanted! Two or three apiaries for cash, located in Colorado. Give full particulars in first letter, and lowest cash price; comb honey preferred.

1Atf THOS. C. STANLEY & SON, Fairfield, Ill.

326 FIRST PREMIUMS SEND FOR FREE CATALOGUE. Prairie State Incubator Co., Homer City, Pa.

47A17t Please mention the Bee Journal

BEE-SUPPLIES!

Root's Goods at Root's Prices

POUDER'S HONEY-JARS and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. WALTER S. POUDER, 512 Mass. Ave., INDIANAPOLIS, IND.

Please mention Bee Journal when writing.

Good Report For Last Season.

I got about 14,000 pounds of honey last year from 94 colonies, and increase to 165 colonies. F. J. GUNZEL.

Poinsett Co., Ark., Jan. 3.

Wintering Well—Prospects Good.

Bees are wintering in perfect condition, and prospects for a good season this year are very fair.

C. H. DIBBERN.

Rock Island Co., Ill., Jan. 22.

1900 a Poor Season.

I started in the spring of 1900 with 62 colonies, and secured about 500 pounds of comb honey, and no increase. It was the poorest season we have had in this locality in 10 years.

I put 58 colonies into winter quarters, 9 of them being light.

THEO. REHORST.

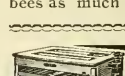
Fond du Lac Co., Wis., Jan. 15.

Report For 1900—Sweet Clover.

The season of 1900 was the poorest in this locality since I have been keeping bees (8 years), with the exception of the "dry" year of 1894. There was a light honey-flow from sweet clover and basswood, but it came very slowly.

I secured about 1200 pounds mostly comb honey, from 60 colonies, spring count, and increast to 73. I was pretty busy in the fall building a new house and getting moved, so I didn't give the bees as much attention as usual, and hives, but think the 8-frame are best. I have found many valuable hints and learned a good deal by taking the Bee Journal. MRS. P. R. DICKSON.

Winona Co., Minn., Jan. 4.



200-Egg Incubator for $12.00 Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day. GEO. H. STAHL, Quincy, Ill.

46A25t Please mention the Bee Journal.

Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I make a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

prices and samples, free on application. BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

Please mention Bee Journal when writing.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Publisht weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS, 330 Market Street, SAN FRANCISCO, CAL.

Please mention Bee Journal when writing.

some colonies are pretty light, as we had no fall honey-flow.

One man two miles from me had two colonies last spring, increast to 8 by the let-alone plan, got no honey at all, and now has one colony! That is, he did have one left about a month ago, when I last saw him.

We had considerable rain here last fall, and clover lookt fine. The great drawback to clover here, tho, is the dry, cold winter, without snow to protect it. The ground is full of moisture this winter, and we are hoping it (the clover) will come thru in good "shape." Sweet clover always comes thru all right—I don't believe a Klondike winter would kill it, for it's almost a "sure thing." It does not stay in bloom so long here as we read of it doing in some other localities. It begins to bloom about July 1st, or a little before, and is all gone to seed and almost all dead before August 1st. Is it because of "locality," or have we a peculiar strain? It is the "short-tubed" clover, and if one has enough of it, it will not be necessary to breed "longer-tongued" bees.

I wish the "Old Reliable" and its numerous family a happy and prosperous season. E. S. MILES.

Crawford Co., Iowa, Jan. 12.

Reliable Incubator and Brooder Co.—The following letter from the Inspector General of the Paris Exposition has been received by the Reliable Incubator and Brooder Co., Quincy, Ill., and its flattering statements, since they are fully deserved, will be enjoyed by the many friends and users of Reliable machines all over the land. We are very glad to give it publicity:

Paris, Nov. 9, 1900.

THE RELIABLE INCUBATOR AND BROODER CO.,
Quincy, fll., U.S.A.

Gentlemen:—I have the honor to remit your certificate of admission to the Paris Exposition of 1900, and take this opportunity to compliment you upon your successful attainments at the Paris Exposition.

Your unique, interesting and instructive exhibit in its handsome pavilion has entertained hundreds of thousands of visitors, whose unanimous opinion and active interest manifestly declare you to be the head and front of the poultry industry in the United States.

Signed, HON. C. DE RUFFE D'AUXION,
Inspector General.

Issued under the authorization of
The Hon. Delawney Belleville,
Director General.

Juvenile Poultry Raisers.—As time goes on it becomes more necessary to give our boys and girls practical education. Agricultural colleges are springing up in every State. We are sending our next generation of farmers to these schools now to fit them for battling with close competition on all matters that pertain to successful farming.

These schools of training are commendable, but the large percent of the farmers in the future will come from the farms without the advantage of science as developt at these schools. It therefore stands us in hand to make the best use of our home schools—the farms. Every boy and girl likes to own something, and, for the educational purposes alone, they should own something. Nothing fills the bill better than an incubator and a flock of poultry. It cultivates a sense of care and business management that would be lacking when they were called on to do business with a competing public. It is in their time of life that impressions are permanent, good or bad. The writer of this was a boy once, raised on a farm; owned every colt—or rather owned a new colt each spring—owned it until it became valuable, then he had the privilege of trading it for the youngest again and was educated to think the young colt more valuable for a boy than a colt old enough to bring a good price. The result of this line of training and encouragement, he landed in business at 21 a regular pumpkin-head to do business. The farm had no attractions for him, he could see nothing in it but plow and harrow and doing without money from crop to crop. I am not blaming Dad, he simply did not know how to educate a boy. Had there been an agricultural college or other school that occurred to him to be a good thing for a boy, money would not have stood in the way. As above stated, he was not aware that he had the best school on earth, right at home among realities.

Of course, we would rather the farmer would buy his boy an incubator, but rather than see the boys grow up without ideas of business care and management, it would certainly pay really to give them a start, even if it was nothing more valuable than a hen and chicks. Boys and girls like to own something; as soon as they are old enough to play marbles or jump the rope, they will want to own the marbles and rope at least.

In buying an incubator for the young poultry-raiser, it is just as important that we have a good one—one large enough for business and well enough made to do the work properly—as it is that his father has a good implement for his work. Poor tools discourage the users. Give the youngsters a fair chance.

M. M. JOHNSON,
Inventor of the Sure Hatch Incubator.

A Model Incubator Factory.—The new factory erected last summer at Rose Hill by the Marilla Incubator Company, is thoroly equipt in all its departments with modern, up-to-date machinery for the manufacture of incubators and brooders. In many respects it is one of the most complete incubator factories in the country. Since its completion it has been filled with busy workmen building this famous style of incubators and brooders. All possible care is taken in the factory to see that everything about the machines is exactly right; the material is carefully inspected before it passes into the factory; only skilled mechanics are employed, and every finisht machine is tested before being crated. It is this extraordinary care which enables these manufacturers to sell their machines on the 30-day free trial plan, and they tell us that not one machine in a hundred ever comes back. The new catalog of the Marilla is a handsome book full of practical information on incubation and brooding, and explaining in detail the Marilla hot-air tank or radiator and mercury regulator—special features of this incubator—in which we know our readers will be interested. Send for it, being sure to mention the American Bee Journal when writing.

Queen-Clipping Device Free....

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & COMPANY,
119 Michigan St., Chicago, Ill.

Good Instruments.

Don't confuse these instruments with cheap "bargain counter" offers. They are high grade, fully guaranteed, instruments FOR MUSICIANS.

VIOLIN—Amati model, choice of 3 colors, dark brown, light red or amber, full ebony trimmed, Brazil wood bow, pearl frog, leather bound canvas case, extra set of strings, rosin, etc., worth $20, **My Price $6.25.**

GUITAR—Solid Rosewood, standard size, neatly inlaid, Spanish cedar neck, celluloid front, ebony finger board, best quality patent head fit in leather bound canvas case. Regular price $18. **My Price $7.65**

MANDOLIN—Solid Rosewood, 19 ribs; celluloid front; veneered head piece, handsomely inlaid. Elegant French Polish. Patent head, engraved tail-piece. Worth $15. **My Price, Only $7,** with leather bound case, extra set of strings and tortoise pick. Send for circulars of high grade musical instruments of all kinds.

$7.65.

Charles M. Ball, me Auditorium, CHICAGO.

The Emerson Binder.

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Jan. 19.—Honey is selling slowly; this applies to all grades with the exception of white clover and basswood comb honey, which sells readily at 16c providing it grades No. 1 or better. All other kinds of white comb honey sell at from 14@15c, and candied white comb at from 8@10c; travel-stained and off-grades of comb, 13@14c; amber, 12@13c; amber extracted, 7@7¼c; dark and buckwheat comb honey, 9@10c. Extracted, white, 7c, 7¼@8c; basswood and white clover bringing the outside prices; buckwheat and other dark grades, 6@6½c. Beeswax, 28c. R. A. BURNETT & Co.

KANSAS CITY, Jan. 22.—Fancy white comb, 15@17c; amber, 13@14c; dark, 9@11c; demand good. Extracted, 7@9c; demand quiet. Beeswax, 2@@30c.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

BUFFALO, Jan. 17.—All kinds of honey are so quiet it is difficult to make a sale. Occasionally some sells, fancy 14@15c; few, 16c; choice and No. 1, 12@13c; few, 14c; but dark, 9@10c, and all kinds in liberal supply; some may have to be reconsigned. Extracted, 7@8c, and not wanted in Buffalo. Beeswax, 22@27.

BATTERSON & Co.

ALBANY, N. Y., Jan. 18.—Honey market is dull on all grades now, with light stock and light demand. White comb in good condition, not candied, 15@16c; mixt, 13@14c; buckwheat, 12@12½c; mixt, 11@11½c. Extracted, white, 8@8¼c; mixt, 6@6¼c; dark, 5½c.

H. R. WRIGHT.

BOSTON, Jan. 18.—Fancy No. 1 white in cartons, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. Absolutely no call for dark honey this year. Extracted, white, 8@8½c; light amber, 7½@8c. Beeswax, 27c.

BLAKE, SCOTT & LEE.

CINCINNATI, Jan. 16.—Market very quiet. No change in prices. Fancy white comb sells for 16c. Extracted, dark, sells for 5½c, and better grades bring 6½@7½c. Fancy white table honey brings from 8½@9c. C. H. W. WEBER.

NEW YORK, Dec. 22.—Fancy white, 15@16c; No. 1 white, 14c; No. 2 white 12@13c; amber, 12c; buckwheat, 10@11c. Extracted in fairly good demand at 7¾@8c for white, and 7c for amber; off grades and Southern in barrels at from 65@75c per gallon, according to quality. Not much demand for extracted buckwheat as yet. Some little selling at 5½@6c. Beeswax firm at 28 cents.

Demand continues good for comb honey; supply fairly good. Extracted in fair demand with enough supply to meet requirements.

HILDRETH & SEGELKEN.

DETROIT, Jan. 19—Fancy white comb, 15@16c; No. 1, 13@14c; dark and amber, 12@13c. Extracted, white, 7@7½c; amber and dark, 6@6½c. Beeswax, 26@27c. M. H. HUNT & SON.

SAN FRANCISCO, Jan. 9.—White comb 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber, 6¼@7¼c; amber, 5¾@6½c. Beeswax, 26@28c.

Stocks of all descriptions are light, and values are being as a rule well maintained at the quoted range. Firmness is naturally most pronounced on light amber and water white honey, the latter being in very scanty supply.

HONEY MARKET.—We may have a customer within a short distance of you who wants your honey or beeswax. We are in close touch with all the markets; therefore write us regarding your crop, stating quantity, quality, and lowest cash price. References—Either Bank here for any business man in this city.

THOS. C. STANLEY & SON, Fairfield, Ill.

— DO YOU WANT A —

High Grade of Italian Queens

OR A CHOICE STRAWBERRY?

Send for descriptive price-list.

D. J. BLOCHER, Pearl City, Ill.

47A26t Mention the American Bee Journal.

For Sale Extracted Honey from Alfalfa—60-pound cans at 7c; and smaller cans.

5A4t D. S. JENKINS, LAS ANIMAS, COL.

Please mention Bee Journal when writing.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS F

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

Please mention Bee Journal when writing

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	60c	$1.00	$2.25	$4.00
Sweet Clover (yellow)	$1.50	2.80	6.25	12.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	90c	1.70	3.75	7.00
White Clover	90c	1.70	3.75	6.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to

Prof. A. J. Cook, Claremont, Cal.,

FOR HIS

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

Please mention Bee Journal when writing

FREE FOR A MONTH ....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.

Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

Please mention Bee Journal when writing.

BE SURE TO REMEMBER that the popular Pan-American Exposition Route this summer will be the Nickel Plate Road, the shortest line between Chicago and intermediate points and Buffalo. No excess fare is charged on any of its Peerless Trio of fast express trains, and American Club meals ranging in price from 35 cents to $1.00 are served in all its dining cars. Palatial thru vestibuled sleeping-cars and modern day-coaches with uniformed colored porters in attendance on the wants of passengers. The acme of comfort and convenience in traveling is attained thru the superb service and competent equipment found on the Nickel Plate Road. Write, wire, 'phone or call on John Y. Calahan, General Agent, 111 Adams St., Chicago. 1 4a3t

24th Year **Dadant's Foundation.** 24th Year

We guarantee satisfaction. ✻✻

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED-PROCESS SHEETING.

Why does it sell so well? ✻✻

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

LANGSTROTH on the HONEY-BEE—Revised
The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO., 118 Mich. St., Chicago, Ill.

☞ Please allow about two weeks for your knife order to be filled.

Bee-Hives and Honey-Boxes

in car lots, wholesale or retail. Now is the time to get prices. We are the people who manufacture strictly first-class goods and sell them at prices that defy competition. Write us to-day.

Inter-State Box and Manufacturing Company,
47Atf HUDSON, WIS.

Please Mention the Bee Journal when writing Advertisers.....

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., FEBRUARY 7, 1901.

FORTY-FIRST YEAR No. 6.

WEEKLY

February.

The low-slanting Sun, which for many a day
Has played childish bo-peep with work,
Is slowly but surely retracing his way,
Which means he will no longer shirk.

In prodigal mood he deserted the North—
With harvests a plenty in store—
To riot with beauties of tropical birth,
And sensuous gardens explore.

Repenting, he turns toward the land where the bloom
Is waiting his slow, silent tread.
Thrice welcome the wanderer back, and make room
For music and joy we thought dead!

The bees and the birds have been silent and glum
Since cheery Old Sol traveled South;
The flowers lie asleep till this rover shall come
And kiss them right square in the mouth.

—By EUGENE SECOR.

THE AMERICAN BEE JOURNAL

PUBLISHT WEEKLY BY

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Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

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Or, Manual of the Apiary,

—BY—

PROF. A. J. COOK.

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McHenry Co., Ill.

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., FEBRUARY 7, 1901. No. 6.

Editorial.

National Bee-Keepers' Association.—General Manager Secor has sent us the following copy of the report of the committee appointed by the Board of Directors of the National Bee-Keepers' Association to count the ballots cast at the annual election held in December, 1900:

CHICAGO, ILL., Jan. 23, 1901.

HON. EUGENE SECOR,
General Manager National Bee-Keepers' Association, Forest City, Iowa.

DEAR SIR:—The undersigned committee selected to count the votes cast by the members of the National Bee-Keepers' Association in December, having performed their duties, find the following result:

Total number of votes cast 295.

FOR GENERAL MANAGER—Eugene Secor, 259; George W. York, 16; Dr. C. C. Miller, 3; Wm. A. Selser, 2; balance scattering, 1 each.

FOR THREE DIRECTORS—W. Z. Hutchinson, 237; A. I. Root, 233; E. Whitcomb, 213; George W. York, 25; G. M. Doolittle, 17; Dr. C. C. Miller, 12; Herman F. Moore, 13; E. T. Abbott, 11; C. P. Dadant, 10; N. E. France, 8; O. O. Poppleton, 6; Frank Benton, 5; C. A. Hatch, 4; W. L. Coggshall, 3; Thomas G. Newman, 2; H. G. Acklin, 2; P. H. Elwood, 2; Prof. A. J. Cook, 2; Eugene Secor, 2; balance scattering, 1 each.

Respectfully submitted,

GEORGE W. YORK, } *Com.*
HERMAN F. MOORE, }

The officiary of the National Association now are as follow:

President—E. R. Root.
Vice-President—R. C. Aikin.
Secretary—Dr. A. B. Mason, Toledo, Ohio.
General Manager and Treasurer—Eugene Secor, Forest City, Iowa.

Board of Directors—E. Whitcomb, W. Z. Hutchinson, A. I. Root, E. T. Abbott, P. H. Elwood, E. R. Root, Thomas G. Newman, G. M. Doolittle, W. F. Marks, J. M. Hambaugh, C. P. Dadant, and Dr. C. C. Miller.

Single vs. Double Tier Cases.—Some time ago Gleanings in Bee-Culture publisht an editorial on the subject of comb-honey shipping-cases, saying that years ago the first were double-tier, holding 48 pounds, but some thought them too heavy. After some time similar cases were made holding just half the amount, and finally 12-pound single-tier cases. The latter were so convenient that naturally the 24-pound single-tier appeared. Bee-keepers and commission men, after using the latter, decided that it was just the thing. The objection to the double-tier cases was that should any of the combs in the upper tier of sections become broken they would leak down over the lower tier, and thus daub them also. During the past few years there has been scarcely a double-tier case used in the East and central West, but in Colorado the bee-keepers seem to hold to the double-tier cases with two glasses separated by a strip of wood.

Editor Root says that during all the time the many were advocating single-tier cases Dr. Miller still clung to the 24-pound two-story case. The Root Company, like many others who handle large quantities of comb honey, advocated the single-tier cases either 12 or 24 pound, but it seems that after getting and disposing of some car-loads of honey from Colorado the past few months, put up in double-tier 24-pound cases, their prejudice against them began to wane; and now Mr. Boyden, their honey-man, and also the freight-handlers, prefer the 24-pound double-tier cases. Mr. Root thinks that while it may not be possible to give fully the reason, it may be on account of the double-tier case being cubical in form, and thus more easily lifted and handled than when spread out in a single tier. He says, "Handle a car-load of it and be convinced." He thinks the double-tier case is more symmetrical in appearance, conforming more with other packages holding staple goods.

Mr. Root also says that the double-tier case is now used "with drip paper under the upper set of sections as well as under the lower one, so that the one objection to honey leaking from the upper to the lower set has been removed."

Galvanized Iron vs. Tin.—A Stray Straw in Gleanings in Bee-Culture says:

"Australians seem agreed that galvanized iron does well to hold honey so long as honey without air touches the surface; but let the surface be simply daubed with honey so the air can get at it, and chemical action at once takes place.—[A short time ago the Australians seemed to be agreed that galvanized iron was not fit for either extractors or cans, for holding honey. The verdict in this country seems to be that for extractors it is safe, because the honey is supposed to remain in the machine only long enough to run out. But I believe myself that storage-cans of less than one or two barrel capacity should be made of tin. If larger, galvanized iron will be all right.—EDITOR.]"

Queens by Mail.—In the American Bee-Keeper Editor Hill refers to the discussion at the Chicago convention in regard to the effect on queens sent by mail. It will be remembered that there were those present who thought that queens were quite a good deal injured in going thru the mails, and also others who did not think they were materially affected. Referring further to the matter, Mr. Hill says this:

To take a queen from active egg-laying and confine her in a mailing-cage for several days is such a very abrupt change, resulting in a suspension of her natural function, that even a casual thought of it impresses one with the probability of its detrimental effect; and, indeed, it may be that very prolific queens are sometimes injured in this way. We believe, however, that it will rarely be found that the injury is permanent. Some of the best queens that we have ever owned have come to us thru the mails, during the honey season. Some very inferior ones have likewise been received. We might be prone to charge this inferiority to the above cause, but the most inferior lot of queens that we have ever bought were confined only about 20 hours; and then, upon three full frames of brood and bees. There were 50 of them in the lot, and but five or six of them proved to be worth keeping, altho they were of the high-priced kind.

The National Bee-Keepers' Association.—We received the following letter recently:

EDITOR AMERICAN BEE JOURNAL:—I have just learned thru the Rural New Yorker the result of the Utter vs. Utter suit against the bees. Hurrah for the National Bee-Keepers' Association! Had it not been for it that suit would never have been appealed, and then bee-keepers the whole world over would have had to take a back seat, and would have been hounded around by anybody and everybody who chose to do so. I wonder if bee-keepers thruout the country realize the benefit they have already, and will hereafter receive from the actions of the Association. Too many good things can not be said in praise of it. It seems to me the Association is the mainspring to bee-keepers; that is, it is the foundation upon which we as bee-keepers can build our hopes of having our rights protected.

I am glad my ideas have been stirred up sufficiently to cause me to become a member of the best association we ever had. Enclosed find $1.00 which you will please forward to General Manager Secor. AARON SNYDER.

Ulster Co., N. Y., Dec. 31.

We are glad Mr. Snyder wrote us as he did. His letter ought to stir up others to follow his good example.

Really, we don't see how any one that is at all interested in bee-keeping, and in seeing their rights upheld, can fail to appreciate the great value of the National Bee-Keepers' Association. There ought to be a grand stampede on the part of those still outside the Association. They should join by the hundreds, and do so at once.

We are ready at all times to receive the annual dues ($1.00) from any and all, and then forward the money to General Manager Secor, who will promptly mail a receipt to each.

Pasteboard-Candy Queen-Cages.—During the past season a number of queen-breeders used mailing cages which had a piece of perforated cardboard at the candy end of the cage, instead of the usual cork that has been used for years. The idea was that the bees would tear away the pasteboard, then eat thru the candy, and thus liberate the queen. It seems that some bee-keepers who received

queens in these cages were not successful in introducing, and attributed the failure to the pasteboard. In a Stray Straw in Gleanings in Bee-Culture Dr. Miller had this to say about it, he having used a number of the pasteboard cages:

The American Bee-Keeper, speaking of the pasteboard-candy mode of introduction, says: "At this writing numerous reports are coming in which show that failure more often results thru the use of the new plan than with the older method." Isn't your verdict a bit hasty, Mr. Hill? In the few hundred cases that have come within my knowledge, there have been rare exceptions when the bees did not remove the pasteboard, but that is the only objection. As to the rest, there is undoubtedly additional security from the longer time it takes to remove the pasteboard; and, without being sure of it, my present notion is that fewer failures will occur with the pasteboard.

Editor Root had this comment on the above paragraph:

A good deal depends upon the kind of pasteboard and the manner it is put in over the candy. The first cages we sent out had the strips cut too wide. We now cut them much narrower, so that the candy is exposed on both sides to the bees, as well as thru the perforations in the center. It is true, there have been failures by this plan of introduction; but the failures have been due, I think, in all cases, to too much pasteboard or to the wrong kind of pasteboard.

Should Brood-Combs be Renewed? is a question sometimes askt, and answers to the question vary according to the place. It seems just a little strange that views on opposite sides of the ocean should be so far apart. Good authorities on the other side say that when brood-combs become old the cocoons left in the cells from year to year diminish the space for the growing larvæ to such an extent that it is not advisable to allow combs to remain without renewal, the proper time for renewal being given by different authorities at four to ten years. On the other hand, bee-keepers in this country pay little or no attention to the matter of renewing combs, counting that age alone does not rule them out. Some of them say they have combs 10, 20, or more years old, and can see no difference in the size of the bees reared in them. But a slight difference in size might not be easily discerned with the naked eye, and those who advocate renewal of combs argue that as each bee that emerges from a cell leaves a deposit in the way of a cocoon, the diameter of a cell must become less, and as a result the bees reared therein must be less.

The only way to settle the matter definitely would be to have instruments sufficiently delicate to measure a very small fraction of an inch, to find by actual measurement the difference in diameter between cells of new and old comb. Such measurement has been made by Editor Root, and unless the specimen of comb measured by him was exceptional, we may thank him for having set the question at rest, and congratulate ourselves that the bees do not show a lack of good judgment when they show their preference for old comb. Mr Root had sent to him a specimen of worker-comb 25 years old, and says:

There are just as many cells to the square inch, of course; but the *bottoms* of the cells have from eight to ten layers of cocoons, while the *sides* of the cells have only one, and at most two layers. This would seem to indicate that, when the *diameter* of the cells gets too small, the bees remove the excess of cocoon walls, but leave the bottoms until they get a packing of ten layers. This reduced depth can, of course, be corrected by adding more wax to the *ends* of the cells. Now let's see if this is true. There, I've stopt to measure, and find that the thickness of the comb is from one inch to one and one-sixteenth thick. Thickness of *new* brood-comb is about seven-eighths; and, if so, this 25-year-old comb has been thickened from two to three sixteenths because of the packing of nine and ten layers of cocoons in the bottom of the cells. The other fact seems to be that the diameter of the cells has not been reduced all these years. If this is true with other old combs, then worker-bees in a 25-year-old comb will be just as large as in one six months old. This I am inclined to believe correct, because Nature would surely make some provision for the excess of wall-linings.

Weekly Budget

Dr. J. P. H. Brown, of Richmond Co., Ga., writing us Jan. 22d said:

"Bees did fairly well the past season, and where attention was given they will safely pass over till they can gather from natural sources in the spring."

Mr. H. D. Cutting, of Lenawee Co., Mich., as a good many of our readers know, has been totally blind for several years. On Jan. 1st Mr. Cutting mailed us a picture of himself and his dog "Duke." This dog is one of Mr. C.'s most intimate friends. He is 2 feet 11 inches high, which is about 5 inches higher than an ordinary dining-room table. He weighs about 165 pounds. Mr. Cutting says, "He is very kind to me, also a great pet of our family."

Mr. Cutting, as doubtless a great many will remember, had charge of the Michigan apiarian exhibit at the World's Fair here in Chicago in 1893. At one time he was also president of the National Bee-Keepers' Association, being for a number of years one of the leading bee-keepers in Michigan. His many friends will sympathize with him in his sad affliction, for none of us who have the proper use of our eyes can realize what it means to be entirely deprived of it.

Mr. Cutting has earnestly solicited us to visit him some time—a thing which we would like very much to do, and are still hoping that we may have the pleasure of spending a day or two at his pleasant home. It will be a delight for us to see him, even if he can not see us.

Mr. H. D. Cutting and "Duke."

Mr. Thomas G. Newman, in his Philosophical Journal for Jan. 19th, had this to say about our New Year's troubles:

Fire.—We regret to learn that the office of the American Bee Journal, of Chicago, Ill., as well as the bee-supply and honey departments, were wreckt by fire and water on Jan. 1st. This was a disastrous way of beginning the New Year. As the editor of the Philosophical Journal was editor of the American Bee Journal for nearly 20 years, he deeply regrets this disaster. The present proprietors (Geo. W. York & Co.) have our warmest sympathy and best wishes for surmounting the loss. As they issued the next week's Bee Journal on time, we feel that they are equal to the task.

Mr. F. L. Field was one of our New York subscribers until we received the following letter, Jan. 23d:

Dear Sir

Now I want you to stop that paper of yours I have had to or three little papars sent me before that I could not stop it when paying up, now I want this to end it If you send it on you will never receive any pay when I subscribe for a paper I am capable of knowing how long I want it with out any of your help.

F. L. Field.

The above is as nearly like Mr. Field wrote it as we can show it in type. His subscription was in arrears only since July 1, 1900. If he had been kind enough to have sent us a postal card when it expired, asking us to discontinue sending it, we would have attended to it. But Mr. Field very likely wanted the Bee Journal, else he would have notified us in a courteous way over six months ago.

Many subscribers express their thanks to us for continuing to forward the Bee Journal to them after their paid subscription expires, or until such time as it is more convenient for them to remit. We are always glad to do this, even if occasionally we do receive such a cross-grained letter as Mr. Field wrote us.

We would never think of *forcing* the American Bee Journal on any one, and always stop sending it when askt to do so. We do feel, however, that when a man continues to take it from the post-office and reads it, he ought to be willing to pay for it.

Of course, whenever any one finds he does not want it any longer, then he should pay whatever is due, and courteously request its discontinuance. To do this is only common honesty and ordinary gentlemanliness.

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 75).

DISCUSSION ON SELLING HONEY CONTINUED.

Mr. Moore—Mr. Eaton, the chemist of the Pure-Food Commission, would like to say a word or two about labeling packages, from the standpoint of the Pure-Food Commission.

Prof. Eaton—There is one interesting thing just brought up I forgot to mention, and that is, about the name and address of the manufacturer being on every package; that is the only way honey can be sold in this State, at least in the package sold to the consumer, the name and address of the manufacturer must be on the package, not only in the case of honey but every sample of food. There is just one other thought that came to me as Mr. France, I believe, was speaking about putting honey in glucose-barrels. Of course, perhaps you are anxious to avoid the appearance of evil; I don't believe that is quite as necessary as it is to avoid the evil itself. It is the adulteration we are looking after. If they get the honey pure, they don't care so much for appearance. I have noticed the worst adulterated honey comes in the fanciest package.

Mr. York—There are several things I would like to say. I think some one said that the National Biscuit Co. used more honey in barrels than in cans, or preferred it in large packages. If I am not mistaken, they use more honey put up in 60-pound cans than in barrels. The "body-blow" that Mr. Aikin thought he gave me, I did not feel at all. In fact, I would hardly have known that he was aiming at me. He says he has a right to put his name on every package of his honey. True, he has a perfect right to do so, but if I bought his honey I would take it off mighty quick. Usually the way I put up my comb honey for sale is with these words on the printed carton: "York's Honey, Absolutely Pure, Always the Best." Suppose I sell that to grocers and they take it out of the carton and find R. C. Aikin's name and address on the section. Wouldn't the grocers think York was a fraud? I have been advertising; I have kept a man out at high expense to push "York's Honey," and I think I have a right to have my name on that honey and not the bee-keeper's name. It is none of the public's business who produced that honey. When I buy Mr. Aikin's honey, it is *my* honey, and I have a perfect right to do what I please with it. I can throw it in the Chicago river if I want to, or give it to anybody. It is not necessary for the consumer to know whose bees produced it. There is a great difference between the adulterated product and the honey produced by the bees. Mr. Eaton said the label must be on every package—not the label of the honey-producer, but of the man who puts it on the market.

Mr. Eaton—Either the manufacturer or the packer; some one that we can hold responsible.

Mr. York—So I say that every package that I put out in that shape I have my name on, and I will guarantee it. I am not working in Chicago alone. I boom the business of Mr. Aikin when I pay him his price for his honey. For instance, I know Mr. Moore sells honey in this city and gets a good price for it. If he buys Mr. Aikin's extracted honey, and puts Mr. Aikin's name on the pails in which he retails it in Chicago, the consumer would thus learn that it was R. C. Aikin who produced it, and think that next time he (the consumer) will get his honey direct from Mr. Aikin. Then Mr. Moore might as well go to hod-carrying. He can't afford to live here in the city and pay his expenses to advertise Mr. Aikin's business. Do you see the point? When I buy a bee-keeper's honey, that honey belongs to me, and I stand back of every pound of it that I offer for sale. I don't know that I can say anything more than I have. I have had at least some experience, and believe you all know how I stand on this question. If you had had the experience I had last winter with honey, I am sure you would not use another honey-barrel while you keep bees. They are dangerous. I lost one finger-nail myself from handling honey in barrels! You will remember while Mr. Bishop was on the platform, yesterday he spoke of a bung coming out—

Dr. Mason—That was a can and the cover blew off! [Laughter].

Mr. York—I was going to tell about the 28 barrels of honey that I had standing on end in my warehouse; before I knew it, the honey was leaking all over the floor, and I had to transfer every barrel of that into tin cans.

Mr. Poppleton—The honey we had did the same thing in cans.

Mr. York—I lost scarcely any honey at all in cans. But Mr. Burnett knows more about this subject than all of us put together. He has handled much honey in his 20 years in Chicago, and I would like to have him close this discussion, if he will.

Mr. Burnett—I thought perhaps you had enough yesterday, but this discussion brings to my mind a little incident. I will relate it. If Dr. Mason takes exception to it, you must draw your own conclusions. We will lay the scene on the bridal tour. After a little lapse of time in conversation, the lady turning said, "Who is sweet?" The reply was, "Both of us." Now, this discussion on packages has been sweet; it is all right, and the condition of the package will tell the tale when the honey is taken out. If the package was properly prepared for the honey, there will be no difficulty with the honey when it is taken out. I have been given considerable credit here that I am not entitled to, in my opinion, and therefore I would depend wholly upon the circumstances and the conditions in which you are situated. I know to put honey in a barrel in some places would be almost to waste the honey. I don't know that there is any place where honey in a can would be wasted, providing the can was all right; so the can may have that much advantage over a barrel; if they are leaky and rusty, why the barrel is perhaps preferable to cans as now used. One gentleman here spoke about using second-hand cans. I never came nearer getting into trouble than I did once on that question. I have been very, very careful when askt by bee-keepers what sort of package to use for their honey, for unless I knew all the circumstances connected with their situation I could not advise, and on many other questions I have endeavored to be conservative; but I knew where new cans were bought for honey, that nothing had been in those cans before; I bought the cans by the car-load and shipt them to parties who filled them with honey, and sold the honey, and as I could get the cans and cases back from the parties to whom I sold the honey at a low price compared with the cost of new, it seemed to me those cans ought to be all right, and as far as I could see they were all right; so I wrote to my correspondent about the matter, and he at once grasped the idea that that was just the thing, that they could save at least a half a cent a pound on their honey by so doing. Having committed myself that far, I got some of the cases and the cans and I began testing them, and found that there were difficulties that were quite unexpected; but my correspondent got a chance to get cans even cheaper—second-hand cans cheaper than the ones I offered him—and he didn't wait for me to sell them to him, but bought elsewhere, and before he got my letter (he had waited some time) he wrote me that he had bought cans elsewhere, and unless I could make those cans cheaper he guest he had enough. About that time I had come to the conclusion I was not going to send them to him, and I wrote back and said I was very glad to get his letter saying he had enough; if anything should happen that I half expected might happen, I didn't want to be a party to it. I think that happened some six or seven years ago, and only this year I got a letter from him, and he said, "There are a few of those second-hand cans that I bought, that you may remember writing me about and thinking they would be a good thing. Well, this is the last of them—I will never have any more. You know of some of the trouble I have had." He blames me now for being a party to that, because I suggested the thing. I had not investigated thoroly before I communicated my thought to him. Now this is a warning to you who have not made any mistake up to this time. If anybody undertakes to use cans for honey that have been used for anything, if they don't get caught the first time, they are twice as liable to get caught the second time with trouble; and if they don't get caught the second time they are three times as liable to get caught the next time; and when they are caught, they are caught hard; they don't forget it. If I don't say anything or talk about anything else, I think I have helpt ev-

erybody who will refuse to buy a second-hand can, no matter who offers it to them for sale, nor how good it is or appears to be. The package for honey ought to be tested, and the party who uses the package ought to know what conditions are necessary to keep honey in good shape. Take a man like Mr. France, he won't make a mistake with a barrel; he has workt out that thing. He knows now what is necessary to carry the honey in the right kind of condition, and it will keep for years in those barrels. Some years ago a bee-keeper came to this city and sold his honey to the retail trade. A good many have tried it in the past, but they have not all stayed with us; but this one came, and the first year he sold all his honey, and sold all his neighbors' honey, and bought quite a lot of honey from me. Well, he felt enthusiastic about the matter; he felt sure that he had gotten into a business now that he was going to get rich at. He didn't think anybody could do much better than he was likely to do, and than he did the first year. The second year he didn't bother much with his own product, but he bought from me several tons of honey and stored it, and it was mostly basswood honey in barrels. The second year he didn't sell nearly as much honey as he did the first, and the third year he didn't sell a great deal of honey, so little, indeed, that he concluded he would sell out the business. Some in the audience could probably tell something about that, too. That was his experience. I bought some of that honey back from him after it had been stored in the basement, I think, fully three years, and there didn't seem to be anything the matter with the honey; some hoops had come off from some of the barrels in that lot—not the lot I sold him—they had broken open, had burst the head out, or something; but I knew mine by the marks that were on. I sold them to other parties and the honey seemed to be all right. Barrels are dangerous unless the man who makes the barrel knows what it is for, and knows how to make a barrel to hold honey. A tin can that will hold a liquid and is well soldered, will do for honey on almost any occasion, altho a great many people who have made cans for honey solder the joints so light that the honey has burst them open; the jarring has sprung them, and lots and lots of honey has been lost in that way. I have had them come in car-loads where the cases were thrown and smeared in honey 3 inches deep on the floor of the car. I don't know that I have anything more to say on this almost inexhaustible subject, for strong-minded people who have had lots of experience know what they need in their business in the way of a package, and as for selling it, we need small packages and we need larger ones. If they are all small, they will not bring any more than half large and half small; that is probably the experience of the trade.

Dr. Mason—Now, you see the persons who have spoken in this discussion might have summed the whole thing up by saying, Put your honey in the package that your market demands. It doesn't depend upon the barrel; it depends upon the man who handles the barrel; doesn't depend so much on the can as on the man who handles the can. Don't try to suit Mr. Abbott by sending honey to him in cans, if you have a market that wants barrels.

Mr. Poppleton—Mr. Burnett, how much more can you sell honey for in the Chicago market in cans than in barrels, on an average?

Mr. Burnett—I don't know as I can answer that question unless it is in this way. If it was about half in cans and half in barrels it might sell at about the same price.

Mr. Poppleton—Mr. Abbott said that we shippers should have a little compassion on the buyers. I want the buyers to have compassion on the shippers and pay us back the extra money cans will cost us, and they will get all the cans they want. It costs me 75 cents more per hundred pounds to ship in cans than in barrels. The whole question with me is that and that alone.

Dr. Mason—Mr. York spoke of the National Biscuit Company having so many cans to sell; we have a National Biscuit Co., in Toledo, and I askt them, "Why do you have so many cans to sell?" and they answered, "Because we can't get honey in barrels and are obliged to buy in cans."

Mr. Poppleton—I have taken great pains to find out what our market demands and they tell me barrels.

Pres. Root—Mr. Aikin wishes to make an explanation of the labels on packages.

Mr. Aikin—The explanation I wish to make about labels on packages is just this: Mr. York, or any other dealer, need not worry about losing his trade because my name and address is on the package. It is only the man who buys or ships in car-load lots who is able to pay freight, and a man in this city who wants to buy a case of honey, either comb or extracted, isn't going to send to me and pay local freights. No, he is going to buy my honey from Mr. York. I wisht to speak on that point because there is an undue fear in that respect.

Mr. York—There are many private families in Chicago who could easily afford to send to Colorado for Mr. Aikin's honey, and pay for it and also pay the freight on one 60-pound can or 50 pounds of comb honey, rather than pay the retail price that grocers have to charge here for honey. While such dealing direct with the producer by the consumer is entirely right, still no city retail dealer is quite foolish enough to furnish his customers with information as to his source of supply so they can buy direct. It costs too much to work up a demand or line of customers, to turn it over to some one else in that way afterward. I would not expect that the bee-keeper who buys honey of me to retail among his customers would use my name and address on his retail packages, and thus show his customers just where they can get that same kind of honey. That wouldn't be ordinary common-sense let alone business sense.

Continued next week.)

Report of the Illinois State Convention.

BY JAS. A. STONE.

The Illinois State Bee-Keepers' Association held its tenth annual meeting at Springfield, Nov. 20 and 21, 1900. On account of bad Illinois *mud* roads there were but few present except those who came by rail. Nevertheless we had a good and profitable meeting. Among those present were President Smith, as he always is; Messrs. George W. York and C. P. Dadant, and, as Mr. York has already said in the American Bee Journal we heard with great interest of a few of the many things he (Mr. Dadant) learned while on his trip thru France, and other parts of Europe.

The treasurer not being present at the opening of the meeting his report was given along with the secretary's, and showed that on account of furnishing the Bee Journal to every member it left a small treasury.

After the reading of the reports a motion was made by Mr. Dadant that the one dollar membership fees go into the treasury, and the members pay extra for their American Bee Journal. Whereupon the secretary assuring them the treasury had need for but very little funds, the motion was withdrawn, and the same arrangements as in several years past were made, to give a copy of the American Bee Journal for one year to each person who sent in a dollar for membership in the Illinois State Bee-Keepers' Association, to Jas. A. Stone, Sec., Rural Route 4, Springfield, Ill.

The president's address was brief, but in happy, well-chosen words.

Mr. Becker said, "I am a Methodist, and favor experience meetings, so let us hear from all the members. My bees swarmed a great deal, and stored no honey. Mr. Dadant, how would you prepare a winter cellar for bees?"

Mr. Dadant—Our cellar is separated from the furnace-room by a double 4-inch wall, packt between with sawdust, ceiled overhead, and there packt the same. There are two windows outside, arranged with shutters to let in air but not light.

Mr. Titterington—Do you let your bees swarm, or do you divide them?

Mr. Dadant—Almost entirely the latter.

Pres. Smith—I prevent continued swarming by first hiving the second swarm in a new (fresh) hive, and at the end of 48 hours empty them in the evening at the entrance of the mother (old) hive, which will likely end swarming for that colony for the season.

Mr. Dadant—Whom did you get that from?

Pres. Smith—From you.

The premium list committee reported, and on motion a temporary committee was named as follows: Chas. Becker, C. P. Dadant, and Jas. A. Stone.

It was voted that the premium list committee be instructed to ask for a larger premium on honey extracted on the grounds, on account of its being an educator to those who were prejudiced against extracted honey.

Mr. Dadant said in his splendid talk on his travels thru Europe, that he could distinguish the American honey at the Paris Exposition from that of the other countries, by the neatness of the sections, even at a distance; and in the apiaries that he visited he did not see the improved implements that were to be found in this country. He began to think he was more of an American than Frenchman. But he also said in their favor that their bee-keepers' meetings

were more largely attended than ours, and they did not allow any one to enter their meetings till he had paid his fee, of one or two dollars, as the case might be, and still had a membership of 200 or 300.

Mr. Becker—One year, when the white clover honey-flow was good, I had one colony that gathered 16½ pounds of honey in one day, and the same colony in the fall gathered 14 pounds from heartsease.

A paper by George W. York was read as follows:

PURE FOOD LEGISLATION.

This is a large subject. It means much at both ends. First, it will take much hard work to secure it; and, second, it will take much more and harder work to enforce it after it *is* secured.

Illinois succeeded in the passage of what was, thought to be a good pure-food law at the last session of its legislature. Some attempt has been made to enforce it in Chicago, but so far we believe without much effect.

As to the question of the need of pure-food legislation, only the adulterator or swindler would object. The very health and life of the people depend upon their getting pure food. There is also a moral aspect to the case. The sale of impure food is a deception and a fraud practiced upon the purchaser or consumer. It is getting money under false pretense, and a pretense of the very falsest and most dangerous kind. The state should protect the lives of those who help make up the State; especially should it step in and insist that helpless women and children shall be prevented from being imposed upon and defrauded by those who pretend to be their friends.

I think that if the law contemplated the prosecution and punishment of the manufacturer or wholesaler of the goods instead of the retailer, better results would be obtained. This would of course necessitate the labeling of practically all goods offered in the open market. But this could be done, and the retailer could be required to reveal the source of his supply, if found adulterated.

Another very important requirement to the successful results of pure-food legislation is honest officials—officers who know no better than to enforce laws just as they find them, without fear or favor. No law ever enforced itself, and never will. The reason, almost invariably, why prohibition doesn't prohibit is because of officials who don't officiate honestly and fearlessly. I believe, however, that the present pure-food commission of Illinois are all right, but that the fatal weakness is in the law itself.

But so long as the "dear people" persist in electing as their State lawmakers, saloon-keepers, pothouse politicians, gamblers and frauds, just so long may they expect to have weak laws—laws that fail at the most crucial time, because they were enacted with that intention. The people must act honestly and decently themselves in the selection of their lawmakers and public officers, then, and not until then, need they expect that good laws will be furnisht and properly enforced.

It would be one of the simplest things in the world to drive practically all the adulterated honey out of the Chicago market, or any other market, for that matter, if it were gone about in genuine earnestness and with determination to accomplish the thing. There should be a provision in the law permitting the confiscation of all the adulterated food on the market. A few raids backt up with a law having such "teeth" in it would soon end the adulterating business. There wouldn't be any profit in it; and any business that is unprofitable in dollars and cents will soon be left to take care of itself, and that means speedy death.

The people should *unite* in *demanding* the enactment of strong adulteration laws. If present legislatures refuse to comply with such demand, then proceed to elect men that will give heed to the people's will. Having secured suitable laws, elect only such men to office as will understand that their retention in office depends upon their executing the will of the people as exprest in the laws. Pretty suddenly after such things have come to pass there won't be much adulterated stuff to be found. Even frauds don't enjoy frequent and close contact with so good a thing as a good, strong law—one with cross-cut saw teeth that cut both coming and going. GEORGE W. YORK.

The election of officers for 1901 resulted as follows: President, J. Q. Smith, of Lincoln; 1st vice-president, George Poindexter; 2d vice-president, C. P. Dadant; 3d vice-president, S. N. Black; 4th vice-president, J. M. Titterington; 5th vice-president, George W. York; secretary, Jas. A. Stone, R.D.R. 4, Springfield; and treasurer, Chas. Becker.

On motion the temporary premium list committee was made permanent.

The convention then adjourned *sine die*.

JAS. A. STONE, *Sec.*

The Afterthought.

The "Old Reliable" seen thru New and Unreliable Glasses. By E. E. HASTY, Richards, Ohio.

BEES GNAWING COMB FOUNDATION.

It is a vexatious thing to have bees gnaw foundation after it is put in—half inch of foundation, then a big hole, then the lower half of the foundation pretty much all right, except with nothing to hold it in place. Presumably Mr. Doolittle is right, that flat-bottomed foundation is gnawed much the worse; and that is a serious short-coming. Still, it may be rather the thinness than the shape that tempts them. When they are fixing the bottoms they don't tear things down, and when they tear down they are not fixing the bottoms—not even thinking whether bottoms suit them or not. I don't think bees ever nibble up foundation at the same time when it is being prepared to put honey in, or that they ever throw the fragments away, as one might expect. Incapable of entertaining more than one idea at a time, and anxious not to be idle, they rasp it up to mix with propolis and daub things with. My bees won't even spare the half inch at the top when only starters are put in.

And prepare your queenless hive to keep your drones, while you have plenty. For if Doolittle can't practically make bees rear more in the fall it isn't likely that you can. Hand-picking of drones I am rather suspicious of. May be it's all right. Almost certainly it's no harm. One can't get rid of the idea, however, that the really valuable inheritances (prospective) which drones carry about them inevitably must be totally invisible—or mostly so. Page 7.

THE GREED OF GREAT CORPORATIONS.

I think we have been shown few examples of the *contempt* with which great corporations regard what common citizens think, and *must think*, of their ways, to exceed the one given on page 9. Freight to San Francisco charged when the goods never went there, and were never intended to go there, and then freight back again added in—a regular add-insult-to-injury kind of clean steal. I'm not sure we are going to have overcharges corrected right away, for when there is a desire to overcharge, some less flamboyant way to do it than that can easily be found; but I'll venture to prophesy that the twentieth century will not be very many years old before corporations decide that it pays to keep their *outrages* a little out of sight of the people when they can just as well as not. Presumably the evil habit complained of grew up in the first place by small packages being actually sent that way—nobody on the thru trains knowing what the lockt cars contained in the line of small items.

CHUNK HONEY IN PAILS.

That chunk honey on page 19 was too big a lot, and had "got too far from Canada." People used to sections are not likely to evolute backward and buy the old-fogy style. But in back-county towns, where folks have never bought sections, and don't want to begin, there small lots in bulk would be all right. I doubt if it's best to solder it up in tin, however. Empty candy-pail, or something in the line of a big pail with close-fitting cover, would look to me more like the thing, even if it had to go 50 miles *by wagon*. Indeed, with modern goods the freight and breakage of half a ton of honey might easily pay for lots of wagoning.

HEXAGONAL APIARY A BACK NUMBER.

I weep over Mr. Doolittle giving the weight of his name and example to the hexagonal style of placing hives. Out of date for one thing, and, for another thing, not much to recommend it in the first place, but the fantastic resemblance of the hexagon to the honey-comb. The fact that we are bee-keepers does not make us long to be paid for our crop in hexagonal money. Hexagon not even as good as the rank-and-file, and the latter barely escapes being a dis-

grace—confuses the bee, while the hexagon confuses both bee and keeper. Page 20.

OLD GRIMES AND PERFORATED METAL.

Old Grimes again, eh? Well, well! Poetry has no power to fulfil itself, evidently. And isn't he slandering our craft where he says that few of our extensive bee-keepers use perforated metal? May be he's right, tho. 'Spects, in that case, that the executors of our new pure-food law will get around to their cases sooner or later, and treat them to a jolly fine for putting honey on the market that is mixt with larval food and juices—and three cheers for the pure-food law! Page 20.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Feeding Bees in Winter.

I have a lot of bees that will need feeding. I read of bee-candy. Where can I get it? and how is it fed to the bees? I have old-fashioned hives without sections. Would it do to put the candy underneath, or how will it be best to use it? SUBSCRIBER.

ANSWER.—It may be you can get bee-candy from dealers in supplies, but each bee-keeper generally makes it for himself, and you will find instructions for making in your text-book. [See page 59 for directions for making the "Good" candy.—EDITOR.]

From what you say, your hives are probably box-hives, and there is no chance to feed them above. If the weather is such in your locality that bees are flying every few days, it will be all right to put the candy underneath. Crowd it close up to the combs, so the bees can crawl directly from the combs upon the candy. Put the candy there in the evening, and contract the entrance for a few days, so the robbers will not trouble. If you are in a cold locality, where bees may not be flying for some time, take your bees in the cellar (if they are not there already), turn the bee-hive upside down, and lay the candy on the combs.

How Many Bees Die During Winter?—Wintering in a Warm Room.

1. How many bees in a good colony will die during the winter months, or before the flowers come in the spring?

2. I have two colonies in a room upstairs, which is heated from the kitchen stove. The bees were placed there because their storehouse of honey was not sufficient to carry them thru. Should they be kept in darkness, or have the light? I have a glass box over them, so they can fly around a little, and also carry out the dead bees. Some think they will not winter in this way, but they seem to be doing well, and are quite ambitious. NEW YORK.

ANSWERS.—1. It is a hard thing to give a definite answer. One colony may lose ten times as many as another, the two sitting side by side. A given colony may lose ten times as many bees under unfavorable conditions as it would under the most favorable conditions. One colony may be composed mainly of old bees whose "span of life is nearly run," another may have a large number of young bees. So you see it's a hard matter to say how many will die, and it's no great wonder that the books don't try to tell us. About as near a definite answer as they could come would be to say, "A whole lot." If I were forced to give some kind of an answer, I think I should say at a guess that you ought not to complain much if not more than half of them died, and feel exceedingly thankful if only a fourth of the colony died.

2. Look here, my good friend, if that colony comes out alive in the spring, you can be put in a glass case in a museum and exhibited as the man that brought thru the winter alive a colony of bees in a room well warmed and lighted, the bees having the opportunity to fly within a limited space when they had a disposition to do so. It is true that some cases have been reported in which bees have been successfully wintered in a warm room above ground, but as a rule it is considered that in such a room kept dark thruout the winter, a colony of bees will be found dead in the spring, and if the room is light they will be deader yet. It might be well for you to darken the room, give the bees some honey or candy, and in two or three days later return them to the cellar.

Wintering Troubles.

I wish you would tell me what to do with my bees. For awhile the temperature was at 42 degrees, and one of my colonies started to rear young drones and consumed their honey. They had a young queen which I could not get to lay last fall. I fed them for a week, and it didn't do any good, so I thought I would unite them in the spring, but as they used up most of their honey I just took the cover off and the bottom-board of another that had plenty of honey, and gave them a little tobacco-smoke, but this did no good. There was about two quarts of dead bees in a few days. I don't know whether the smoke killed them, or whether they killed each other. Then, the temperature went down to 35 degrees, and my bees were all quiet. But now it is down to 30 degrees, and they are making a little noise. IOWA.

ANSWER.—Probably about all is done that can be done. The colony that began rearing drones was most likely queenless, or had a bad queen, being worthless in either case, and was killed by the bees that had a good queen. The bad colony is now dead, for which you need not greatly mourn, and the other colony may be little the worse for the scrimmage.

Feed-Bags and Burlap for Packing.

How will old feed-bags or burlap do for packing outside cases, 5 or 6 inches larger than the hives? I have only 3 colonies this winter packt with burlap and with hay-chaff in outside cases, and a super under the hive for a space below. MAINE.

ANSWER.—They will make good packing, but look out that the mice don't find it too comfortable a place for their nests.

Bees Troubled with Moth-Worms.

What can I do to stop millers from getting into the hives and destroying the whole colony? I have had five colonies to share the same fate. They seem like the common little white millers, and then there are worms, some an inch long. They are packt in like sardines in a box. Father had bees for 50 years, but never had anything like this. As he is not here to teach me about bees, I will have to depend upon the books. NEW JERSEY.

ANSWER.—When worms spin their cocoons in a hive and are packt like sardines in a box, the case is pretty bad. The first thing, however, that it is important for you to get into your head, is that the worms are rather a result than a cause of the trouble. In a strong colony of bees, the worms never get much of a foothold, for the bees will keep them cleaned out without any attention on your part. A weak colony of black bees may allow the worms to get in, but if the bees are Italian even a weak colony will keep the worms at bay. You may give the bees some help by lifting out the combs and picking out the worms with a wire-nail. Aside from this about all you have to do is to see that no colony becomes queenless or weak, and to try to have as much Italian blood in your bees as possible.

The Chicago Convention Picture is a fine one. It is nearly 8x10 inches in size, mounted on heavy cardboard 10x12 inches. It is, we believe, the largest group of bee-keepers ever taken in one picture. It is sent, postpaid, for 75 cents; or we can send the American Bee Journal one year and the picture—both for $1.60. It would be a nice picture to frame. We have not counted them, but think there are nearly 200 bee-keepers shown.

The Premiums offered this week are well worth working for. Look at them.

Contributed Articles.

Three Foggy Notions of Value.

Wide-Frame Supers, the Honey-Board, and the Telescope Hive-Cover.

BY FRIEDEMANN GREINER.

WHAT wonderful improvements have been made during the past 50 years in bee-hive manufacture! Even 30 years ago it was an uncommon sight to see anything else but box-hives in a bee-yard. If we will except an occasional hive of an extremely odd pattern, box-hives were the order of the day. A markt change has taken place—a change for the better. Well-made and nicely painted movable-comb hives have taken the place of the ugly boxes. It would seem almost as tho the climax in the line of hive-manufacture had been reacht; but still the improvement is going on. As to the construction of the brood-chambers little is left that need be changed. Of the several different patterns, one should please the most exacting.

As to a cover for my hives, I can not become reconciled to use the modern light single board or even the improved ventilated covers. A single thickness of lumber between the inside fixtures and the weather is certainly not enough, and if a shade-board is required to make it safe—and it is—a better cover could be built, not costing more. Accidentally I once left the telescope-cover off from a hive during the noon hours, leaving the surplus-case protected only by a ¾-inch board. Two hours later, when I happened along again, the honey was running out of the entrance of that hive, and a case of honey was ruined. A shade board would have prevented that loss. A regular telescope-cover, such as Father Langstroth used on his 10-frame-portico-hive, would have been still better. I have not yet found anything to suit me better. I think it is an advantage to have the cover made tall enough at least to take in one super. If made to take in two supers the cover becomes too heavy and expensive. It would, of course, be a good thing to have the two supers well-protected against loss of heat as well as against extreme heat; but if we do not have better honey seasons than we have had for two or three years, the single-tier cover will suffice.

The honey-board is the next foggy notion. Father Langstroth made use of it; and in this way it was handed down to me. When I saw so many adopt and use the quilt instead, I also gave it a trial. For two years I used it extensively, but it did not please me as did the board, and I discarded it for summer use. The bees have a non-commendable way of chinking in propolis between the quilt and the tops of frames or sections, and every time the quilt is raised more glue is crowded in, for the quilt cannot well be readjusted as it had been before. More propolis and stain is found on quilt-covered sections than on those entirely exposed. I would rather use the board, even on such supers as have their sections unprotected at the top. A honey-board is also very convenient as a record-keeper. On many of my hives the record for 10 years may be found on the honey-boards.

A marvelous progress—I would rather say change—has been made in the supers, and most complicated arrangements have made their appearance. Quite a number of years ago, soon after Mr. Root invented his double-tier wide frame, my brother and self hit on the same device unbeknown of what Mr. Root had already in use, except that we adopted a single-tier wide-frame and wooden separators. I have since, and before, used other styles of supers quite extensively, but I have not been able to find one that meets all my requirements and is as handy as this one. To be sure, I have changed the size of my sections several times, but still the wide frame is my favorite.

The objection is sometimes raised that it is difficult to remove the filled sections from the frames. Those who have never given the wide frame a trial are excusable for holding such an opinion. A friend from a neighboring town stopt with me this fall and lookt over things; he exprest just such fear. He was not in the business very extensively, but said he wanted to go in, and before doing so he wanted to find out what the best supers and appliances were, so not to be obliged to change later on when it would cost more to change. (If we all had been as careful as this friend, how many mistakes would have been avoided, how much money we could have saved!)

Well, it so happened that I did have a few full cases of honey on hand that had not been disturbed, but were exactly as they came from the hives. They were opened up and in a few moments the doubts and fears of my young friend were disperst, for the filled sections came out easier than empty ones would. In fact, there is no difficulty whatever.

And then the advantage of having our sections protected on all sides is not—well—to be sneered at. The so-popular section-holders, the T and other supers, leave just that part of the sections exposed that, *above all*, should be protected. I always case my honey the same side up as it was in the hive; thus the tops of the sections are first exposed to view when a case is opened, and, when they are soiled, they make a bad impression. I can understand that those who use such supers as allow the soiling of the section-tops have use for sand-paper machines. I find I can well dispense with them as I seldom use other than wide-frame supers.

In conclusion I wish to say: It is true that when we become accustomed to certain implements, or the ways to use them, we gradually become of the opinion that those implements or methods are superior. The bee-keepers in Germany, for example, use a hive accessible only from the rear; their hives more nearly represent a cupboard; grooves are cut out in the proper places to allow two, three, or even four sets of frames to hang one above the other. The German bee-keepers understand how to get along with the inconvenience of their hive, and altho they well know what kind of hives we in America use, not one in a thousand can be induced to try them. We Americans can hardly understand this attitude of the Germans; and yet, even in America, it takes a long time, sometimes, before a good thing is recognized. Sometimes even a good thing is thrown aside, as is the case with the wide-frame super, the honey-board, and the telescope cover.

Ontario Co., N. Y.

An Interesting Cellar-Wintering Experience.

BY E. S. ROE.

I KEEP my bees in the cellar, and have a lamp-stove to regulate the temperature during extreme cold spells. The cellar has no other deposit than the bees. The lower hives are about two feet above the floor, but otherwise so compact that only narrow aisles are left between the tiers.

Yesterday (Dec. 31) the mercury registered, outside, 28 degrees below zero; in the cellar the temperature was 2 degrees below freezing. So in the evening the lamp-stove was arranged on the ground floor, as I had done a few times before, with a metal cover over the top for shading. The light coming from under the burner seemed to annoy the bees more this time than before, so a cheese-mould (zinc open at both ends, and its sides perforated with small holes) being close at hand was placed around the lamp. The free draft at the top and the small holes in the sides I thought would give plenty of oxygen.

After watching the "dummy" a little while, with an air of satisfaction, I turned from the cellar, replenisht the fire in the heater, and prepared for the pleasures of dreamland.

I will never be able to tell how much I dreamed, but at any rate just as the Old Year and Old Century were leaving, the bees and I were undergoing a very unpleasant siege of lamp-black smoke. The strong scent awakened me, and on lighting a match I noticed it was just a little past 12 o'clock. The New Year and New Century were here, and the house full of smoke—"a bad beginning"—but there was comfort in the last part of the saying—"a good ending."

The stovepipe was examined, and then the stove. The trap-door leading to the cellar was next, and the trouble found. The lamp-stove was all aglow. Flames were shooting from under the burner. A little red "vase" stood flaming from the perforations of the screw cap of the lamp, and a column of smoke was rapidly moving from the top. The blaze was soon put out, and with a cloth I was able to hold the hot and sputtering thing long enough to remove it.

The bees were surprisingly on their best behavior. Only one or two were heard flying. The hive entrances

and covers of the top hives were covered with flakes of lamp-black. They had been carried up by the heat and then settled on the hives like falling snow. Of course, the use I made of the cheese-mould was the cause of the trouble. The heat being more confined caused the light to burn higher, which in turn generated the more heat, keeping the flame on the increase, in this way acting on a principle of law that was rapidly carrying it to a serious condition—possibly to the end of explosion, loss of bees and house.

Each reader will be left to form the moral that will be of some practical good. I am thankful that smoke accompanied the excessive heat and came to notify me of the danger.

To-day the bees are quiet, and I hope they are as they seem—no worse for the experience.

Todd Co., Minn., Jan. 1.

Contamination of Queens Thru Hybrid Bees and Royal Jelly.

BY G. M. DOOLITTLE.

I HAVE two colonies of hybrid bees in an isolated position, with which I wish to try an experiment. I wish to have them rear some queens from Italian larvæ by the plan given in your book. Now, if I supply the cell-cups with royal jelly from a hybrid colony, place larvæ in them from a pure Italian queen, and place these prepared cups in a hybrid colony for completion, will the queens emerging therefrom be pure Italian? Be kind enough to reply to this question thru the American Bee Journal, as I am a regular subscriber to that excellent paper." Thus writes a correspondent.

In answering the question, I will say that I take it that the questioner is in doubt about the part played thru the bees which prepare the food for the queen-larvæ. He has evidently heard, thru some one having "locks hoary with age," something of the old theory that was put before the bee-keeping fraternity during the sixties, of "like food, like queens." As hybrid bees are used, quite likely, they giving the best results in queens of any variety of bees with which I am acquainted, except the Cyprians, I have and do use them very largely to feed and perfect queen-cells, and, after years of careful watching, and with years of success in perfecting Italian bees, said to be as good as can be found in the world, I fail to find wherein the food has anything to do with purity of stock, or the changing of the color, or the disposition of the progeny of any queen, in the least.

If royal jelly prepared by black or hybrid bees could contaminate queens of the Italian race, surely the same food prepared by Italians which were of such an orange color that they seemed like lumps of gold when flying in the sunshine, would contaminate the black or German race of bees. And I have proven, beyond a doubt in my own mind, by several experiments, that black queens brought to perfection thru the royal jelly prepared, and the nursing given, by the yellowest of the golden Italian bees, are not in the least degree different from those nurst by their own "blood," hence I feel that I am justified in going on record as saying that the queen progeny of any race or variety of bees are in no way changed as to markings, disposition, etc., thru the food given them. If there are those among the readers of the American Bee Journal who think otherwise, I should like to have them tell us upon what they base their conclusions. While these nice points are of interest only to queen-breeders, in a dollar-and-cent way, yet they are helpful in making up the general fund of bee-knowledge which we are handing down to future generations: hence I believe the American Bee Journal will be willing to give all of the best thoughts on the matter which may be sent in.

But before closing I wish to say a few words about that *purity* part which our correspondent seems to cling to, as being the *ne plus ultra* in the Italian race. I have objected for years, and do still object, to the calling of our Italian bees or queens *pure*, for, from everything I can gather, they are nothing but what would be properly called a thorobred variety of bees. This is also proven by the fact that we have all shades and colors of these bees, from those having golden abdomens nearly their whole length (as shown in the workers), to those which are so nearly black that it takes an expert to tell whether they have any Italian blood about them, only as it is known that they were imported from Italy—the very same place from which came the progenitors of the most beautiful orange-yellow bees obtainable in this country. Had the Italian bees been pure, in a sense equal to that of the pure black or German bee, no such change of color could possibly have come about by years of breeding for color. But this non-purity part of the Italian bee in no way detracts from its standing at the head of all of the bees, as to its industry and usefulness to mankind.

Onondaga Co., N. Y.

The Coming Season in Southern California.

BY PROF. A. J. COOK.

AS the bee-keeper of Southern California is so much interested in the rains of the season, the statistics of the present winter will be of interest. It has been held generally that 15 inches of rain insured a good honey crop, and was necessary to a maximum yield of honey. Doubtless the way the rain comes has much to do with this. Last year a rainfall of 10.65 inches gave a fair honey crop in some sections, while the 11.5 inches of two years previous gave no crop at all. We have already had 12.89 inches this season. We had 9.36 inches before December, mostly in November. Early this month we had 2.68 inches, and we have just had .85 inches, with the weather still unsettled. This has been so evenly distributed that we may hope for great things from it. The season is hardly more than half gone. Our average is about 16 inches.

I give here the rainfall at Claremont for the past nine years, from 1891-92: 12.54; 26.23; 11.17; 24.40; 9.58; 23.14; 11.05; 7.87; 10.65.

Los Angeles Co., Calif., Jan. 21.

LATER.—Jan. 28.—I wrote you last week regarding the hopeful outlook for the coming season for the bee-interests of Southern California. Since writing you we have had a nice rain of nearly one-half inch, which has raised the total over 13 inches. We are now having a much better rain, the amount of which I have not yet learned. But as it has been quite steady for the past 18 hours I think our total must be above the average of 16 inches. And our season is not yet half over.

The rains have come in such gentle mood that nearly all has been retained in the soil. This not only rejoices the bee-keepers of Southern California, but is equally cheering to the grain-growers (who have not had a full crop now for several years), and to the fruit-growers. Our friends of the orchard have not suffered so severely, because of the discovery of the immense reservoir beneath us, yet they, too, are deeply interested, as pumping is quite expensive, and all will breathe more freely if the great underground reservoir is again fully replenisht. A few years ago we had here in Claremont a large number of splendid flowing wells. But the prolonged and unusual drouths, together with the excessive pumping, has made it necessary for the last few years to pump all these same artesian wells. It would give great satisfaction if these wells should again commence to flow. I think Southern California has promise of an exceptionally prosperous year.

A. J. C.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

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GENERAL ITEMS

A Very Successful Season.

Last season was a very successful one with me. I began the season with 20 colonies, secured over a ton of honey, mostly comb, and put 23 colonies into the cellar Nov. 14th, in fine condition.

I am sorry that you suffered such a loss by water thru the fire, but I hope you will not be discouraged for we need the Bee Journal as much as ever. Success to you and it.

FRANCIS HALL.

Fillmore Co., Minn., Jan. 14.

Bees Did Well—Prospects Fine.

My bees did very well the past season. We have had considerable rain already, and the prospects are fine for a good crop the coming season.

I was sorry to hear of your loss on account of the fire in your building.

B. P. SHIRK.

Kings Co., Calif., Jan. 14.

Short Honey-Flow—Bee-Papers.

The honey-flow here lasted only two weeks the past season. I secured about 2500 good, salable sections, but some of the bee-keepers around here who do not take a bee-paper got very little honey and some got none.

I have tried to get them to subscribe for some good bee-paper, but they either know too much, or think they can't afford it. My experience is that I can't afford to do without them.

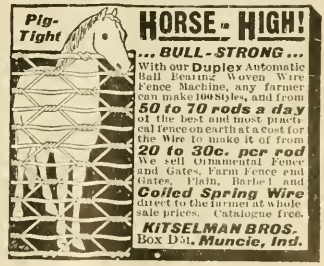
EDWARD WILSON.

Iosco Co., Mich., Jan. 15.

Management at Swarming Time—Is it the Effect of Eating Honey?

On page 808 (1900) Dr. Miller says in answer to question No. 1, in regard to management at swarming-time: "The caged queen was put in at the entrance." Suppose the cage would not go in at the entrance, could it not be put between or over the frames, or in a corner of a frame where there is drone-comb, by cutting enough out for the cage? Also, the Doctor does not say how he confines the queen—whether the bees are allowed to enter the cage, or if they feed the queen thru the screen. Novices, like myself, perhaps would not understand it. Is there no danger of the bees killing the queen when she is released?

I am also interested in the question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on page 809 (1900), "Was sugar in the urine caused by honey?" Being affected in the same way, the doctor said the same thing, "You have eaten too much honey." Now, Doctor Miller, will honey really cause diabetes? I stopt using sweets, and after six months' treatment the specific gravity was 20. I am now using saccharine to sweeten my coffee, but find that it raises the specific gravity to 26. Galenic Institute says, "Eat honey if you crave it." I did one evening, and the next morning the specific gravity was 29. S. M. CARLZEN.

Arapahoe Co., Colo., Dec. 31.

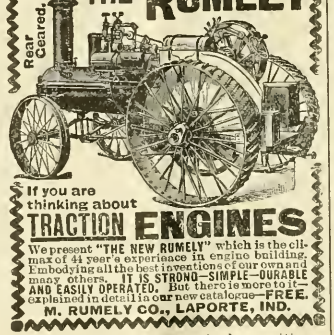
Experience With a Clipt Queen.

I would like to tell of an experience I had with a swarm of bees that had a clipt queen. They came off, flew around awhile, then went back and clustered on the front of the hive up under the shade-boards, staying there eight days. Soon another swarm came out with a young queen and clustered, and I hived them. Two days after this the old queen came out with a swarm, and the swarm on the front of the hive rusht after her, altho they had not moved when the other swarm came out. I moved the old hive from the stand, put a new one in its place, with the caged queen on the alighting-board. The swarm came back, entering the hive with the old queen. Why did the old queen come off with the last swarm? EDWARD KNOLL.

Ontario, Canada, Jan. 25.

Not a Good Season—Yellow Wax.

The past season was not a very good one for bees in this locality. Last winter and spring were very hard on them, and I lost over half of mine, and did not have a swarm during the season. The bees stored very little surplus honey during the forepart of the season, but thru August and a part of September they did pretty well. I secured nearly 100 pounds of surplus honey, and have put 10 colonies into winter quarters, one of which I am keeping on shares. This colony is from a hive of bees that had been on the farm of their owner for over 90 years, having been brought there by his father. Bees have been kept on the farm which I have, since 1836, without intermission. In the fall of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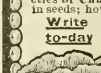

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1874 I had 7 colonies and father had 23, and in the spring I had none and he had 7. I bought a couple of colonies and in the fall of 1878 I had nine colonies and father had 36, but by the next spring I had none again, and father had only three.

I have an old log-gum in which my grandfather brought a colony of bees to this farm in 1821.

In regard to yellow wax, a good plan for those who use wax-extractors is to let the melted wax run from the extractor into a pan of hot water. This will give the wax a chance to cool slowly, and the impurities will settle to the bottom of the pan.

I began taking the Bee Journal in January, 1883, and have nearly every number since that time, and I like it.

J. S. BARB.

Trumbull Co., Ohio, Jan. 15.

Short of Stores—Sour Honey.

My bees are short of winter stores—shortest they have been in 18 years—and are trying to rob. The short crop was caused by too much rain during the past season—two weeks in April, all of June, until July 3d, and nearly all of October.

I purchast a lot of willow and poplar extracted honey at a sale, and found that it had been extracted before it was ripe, and it is slightly sour and granulated. Can you tell me to what degree to heat it in order to reduce it to a liquid state? JOHN M. RYAN.

Marshall Co., Ala., Jan. 8.

[Try 160 or 170 degrees. But don't let it stand at that for any length of time, as there would be danger of changing the color of the honey by almost burning it.—EDITOR.]

Getting Outside Sections Filled—Robber-Bees—Leaky Covers.

I can not report a very good crop for 1900 owing to the drouth. The white clover crop was cut short in June, so the bees could work on it only three weeks. I secured 1250 pounds of fancy clover section-honey, which I think was pretty good from 43 hives in three weeks. Owing to the honey-flow being cut off so short the bees did not swarm.

I have tried the plan spoken of by Mr. Thompson in the Bee Journal, to get outside sections filled as well as the center ones. For the last six years I have practiced putting empty bait-sections to the outside of the super, and I find that it works fine.

When one is bothered with robber-bees about the hives coal-oil is a good thing to use. Wet a cloth with coal-oil and rub it along any crack or crevice the bees are trying to enter—for instance, under the lid—and every robber will leave. I contract the entrance to any hive that robbers are bothering, and place a rag wet with oil where the robbers will smell, or better still, touch it, and they don't stay a second after smelling the oil. I never leave the rag very long after the robbers have gone.

I see quite a little in the bee-papers about leaky covers. I have hives in the home apiary that have been in constant use in the weather for 18 years, and not a single leaky lid in the apiary. Whenever a lid checks, take a good quality of shingles, paint them well, then shingle the cover; and all

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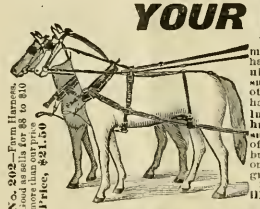

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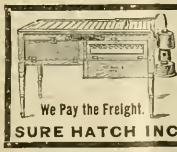

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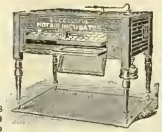

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GUS. DITTMER, Augusta, Wis.

the better if you give them a good dose of paint afterward. This kind of a cover will outlast a new one. If the lids are flat nail a cleat lengthwise down the center, shave the corners of the cleat with a plane, also the edges of the cover—that is, the eaves; then shingle as you would a gable cover, and you will have a small air-space left under the shingle cover, which makes a cooler cover in hot weather. The cleat can be one, or even two, inches thick. EUGENE HAMBAUGH.

Brown Co., Ill., Jan. 8.

Past Season a Failure.

I have been in the bee-business three years, and the past season was almost a complete failure. I will have to feed some of the bees to bring them thru the winter. But I don't see how I can do without the American Bee Journal. ERNEST E. BAKER.

Wayne Co., Iowa.

Bees Having a Flight.

To-day is warm and nice, and my bees are having a fine flight. I can't keep house (and bees) without the "Old Reliable." H. W. CONGDON.

Hardin Co., Iowa, Jan. 14.

Good Season—Honey From Spanish-Needle.

This has not been a very good year for my bees. I got only 3500 pounds of extracted honey and 50 pounds of comb honey from 60 colonies, which is not nearly so well as they have done in years gone by.

I am wintering them outdoors. I made a box with three sides, leaving the front open. I used clover chaff for packing as it absorbs the moisture; they seem to be doing very well.

I move my bees every fall to the swamps of the Illinois River bottom, in order to get the honey-flow from Spanish-needle. I had 40 colonies down there last fall, and secured 1500 pounds of as fine yellow honey as I ever saw. JAMES GROVER.

Brown Co., Ill., Jan. 15.

Difference in Color of Wax.

Did any of the readers ever notice the difference in color between wax rendered from old brood-combs and that rendered from honey-combs? Invariably when melting honey-combs—that is, combs free from cocoons—I get a pale-yellow-nearly-white wax, while if melting old brood-combs I secure a rich-yellow, first-class article. It seems Mr. Hutchinson's experience has been the same. He says he is unable to say what causes the difference in color, and I am not sure that I know what causes it, but I *am* sure that by careful experimenting the cause can be found. Is it possible that brood-rearing colors the wax thru and thru? I think not. I believe it is the stain from the cocoons that gives the wax from the brood-combs its rich-yellow color. We can tell in this way:

Melt up enough old brood-combs to get quite a lot of cocoons and residue; take some new comb and put *above* the pile of cocoons so that the melted wax will not run thru it. Of course a solar wax-extractor must be used.

My reason for thinking that the

stain from cocoons is the cause of the rich yellowness of the wax rendered from old combs is: If an old comb is put into water it turns the water coffee-color. Is it not reasonable to think that wax would be likewise affected?

W. T. STEPHENSON.

Massac Co., Ill.

Poor Season—A Bonanza in a Bee-Tree.

I lost my strongest colony last spring by neglecting to enlarge the entrance when I put them away the previous winter. One colony balled the queen, so I united it with another, which left me with eight colonies, some of which I had to feed.

I sowed two acres of mustard in the spring, and the bees built up strong, and commenced to swarm about June 3d. Four colonies swarmed, and then the mustard played out, and basswood failed, so they did nothing more until buckbrush bloomed, when they stored a little surplus, but I got only 60 pounds of surplus honey for the whole season.

I sowed three acres of buckwheat, and there were acres of heartsease and other wild flowers, but the bees did not seem to store any honey from them. We had four severe hail-storms, which might account for this.

I helpt to cut down a bee-tree last fall, and it was the sight of a lifetime. It was a very large tree, and I think the bees must have been in it about 4 years. The combs were a little over five feet long, and from 11 to 13 inches deep. Some of the honey was granulated; we got all we could stack into a wash-boiler, and a dish-pan full, besides—I should think about 125 pounds in all. I hived the bees, and fed them up, and now have 13 colonies in the cellar, which I think are in fine condition.

LEWIS LAMKIN.

Woodbury Co., Iowa, Jan. 18.

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A Reliable Concern.—Every live and enterprising business institution seeks by all legitimate means to increase its business. In this respect the publishers of newspapers don't differ essentially from other men. It transpires therefore that we are ever on the alert for new business and always diligently seeking new advertising patrons. While this is true it however affords us an infinitely greater amount of pleasure to realize that we merit the continued patronage of an old customer. We are led to refer to this matter by the re-appearance in our columns of the Elkhart Carriage & Harness Mfg. Co., of Elkhart, Ind., whose advertisement will be found on another page of this issue. These people have long been in our paper and are well known to our readers as the manufacturers of good and reliable goods, and for their honest and upright business methods. We take pleasure in again recommending them to our readers.

Storrs & Harrison Company.—Reliability is of the utmost importance in the purchase of trees and seeds. It's a waste of money to buy the kinds that won't grow. The Storrs & Harrison Company, Painesville, Ohio, who have been in the business almost half a century, enjoy an enviable reputation for accuracy and honesty, and any of our readers in want of any thing in the nursery line should send for their valuable catalog for which no charge is made. Kindly mention the American Bee Journal when writing.

HONEY AND BEESWAX
MARKET QUOTATIONS.

CHICAGO, Jan. 19.—Honey is selling slowly; this applies to all grades with the exception of white clover and basswood comb honey, which sells readily at 16c providing it grades No. 1 or better. All other kinds of white comb honey sell at from 14@15c, and candied white comb at from 8@10c; travel-stained and off-grades of comb, 13@14c; amber, 12@13c; amber extracted, 7@7½c; dark and buckwheat comb honey, 9@10c. Extracted, white, 7c, 7½@8c; basswood and white clover bringing the outside prices; buckwheat and other dark grades, 6@6½c. Beeswax, 28c. R. A. BURNETT & Co.

KANSAS CITY, Jan. 22.—Fancy white comb, 15@17c; amber, 13@14c; dark, 9@11c; demand good. Extracted, 7@9c; demand quiet. Beeswax, 20@30c.
W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

BUFFALO, Jan. 17.—All kinds of honey are so quiet it is difficult to make a sale. Occasionally some sells, fancy 14@15c; few, 16c; choice and No. 1, 12@13c; few, 14c; but dark, 9@10c, and all kinds in liberal supply; some may have to be reconsigned. Extracted, 7@8c, and not wanted in Buffalo. Beeswax, 22@27.
BATTERSON & Co.

ALBANY, N. Y., Jan. 18.—Honey market is dull on all grades now, with light stock and light demand. White comb in good condition, not candied, 15@16c; mixt, 13@14c; buckwheat, 12@12½c; mixt, 11@11½c. Extracted, white, 8@8½c; mixt, 6@6½c; dark, 5½c.
H. R. WRIGHT.

BOSTON, Jan. 18.—Fancy No. 1 white in cartons, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. Absolutely no call for dark honey this year. Extracted, white, 8@8½c; light amber, 7½@8c. Beeswax, 27c.
BLAKE, SCOTT & LEE.

CINCINNATI, Jan. 16.—Market very quiet. No change in prices. Fancy white comb sells for 16c. Extracted, dark, sells for 5½c, and better grades bring 6½@7½c. Fancy white table honey brings from 8½@9c. C. H. W. WEBER.

NEW YORK, Dec. 22.—Fancy white, 15@16c; No. 1 white, 14c; No. 2 white 12@13c; amber, 12c; buckwheat, 10@11c. Extracted in fairly good demand at 7½@8c for white, and 7c for amber; off grades and Southern in barrels at from 65@75c per gallon, according to quality. Not much demand for extracted buckwheat as yet. Some little selling at 5½@6c. Beeswax firm at 28 cents.
Demand continues good for comb honey; supply fairly good. Extracted in fair demand with enough supply to meet requirements.
HILDRETH & SEGELKEN.

DETROIT, Jan. 19—Fancy white comb, 15@16c; No. 1, 13@14c; dark and amber, 12@13c Extracted, white, 7@7½c; amber and dark, 6@6½c. Beeswax, 26@27c. M. H. HUNT & SON.

SAN FRANCISCO, Jan. 9.—White comb 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber 6¾@7¼c; amber, 5½@6½c. Beeswax, 26@28c.
Stocks of all descriptions are light, and values are being as a rule well maintained at the quoted range. Firmness is naturally most pronounced on light amber and water white honey, the latter being in very scanty supply.

HONEY MARKET.—We may have a customer within a short distance of you who wants your honey or beeswax. We are in close touch with all the markets; therefore write us regarding your crop, stating quantity, quality, and lowest cash price. References—Either Bank here for any business man in this city.
THOS. C. STANLEY & SON, Fairfield, Ill.

—DO YOU WANT A—
High Grade of Italian Queens
OR A CHOICE STRAWBERRY?
Send for descriptive price-list.
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47A26t Mention the American Bee Journal.

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Alsike Clover	90c	1.70	3.75	7.00
White Clover	90c	1.70	3.75	6.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.

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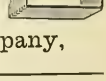

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., FEBRUARY 14, 1901.

FORTY-FIRST YEAR
No. 7.

WEEKLY

MR. GARIEL,
A Parisian Apiarist, and one of the large bee-exhibitors At the Exposition in 1900.

THE AMERICAN BEE JOURNAL

PUBLISHT WEEKLY BY

GEORGE W. YORK & Co.

144 & 146 Erie St., Chicago, Ill.

Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

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The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50c a year extra for postage. Sample copy free.

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Or, Manual of the Apiary,

—BY—

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A sample of either, by mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. The cans are boxt. This is all

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We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., FEBRUARY 14, 1901. No. 7.

Editorial.

Only One National Association.—Rev. A. B. Mettler, of Will Co., Ill., wrote us as follows, Feb. 1st:

1. Is the National Bee-Keepers' Association now in actual existence as the embodiment of the National Bee-Keepers' Union, the United States Bee-Keepers' Union, and the North American Bee-Keepers' Association?

2. And in consequence have these last three gone out of existence? Your quotation of Editor Root, on page 67, seems to imply this much.

3. And if so, when was it effected, where is its headquarters, and who are its officers?

If an amalgamation exists so that there is but one truly National Society instead of two or three or more, I think I would like to unite with it; for then something could be done efficiently, as all will pull together, and not pull somewhat together and somewhat apart, as must be the case where several societies are organized as "National" in the same interests.

4. What is the admission fee?

5. The American Bee Journal for Jan. 31st has arrived. I congratulate you upon removal of your office to a more convenient place. But say, do street cars run up Wells street to Erie street? If not, how near do they go?

6. I am 57 years old to-day, but have had only one birthday. If you can't guess how it is I can tell you later on, if you wish to koow.

A. B. METTLER.

ANSWERS.—1. The National Bee-Keepers' Association is now the only national organization of bee-keepers in existence. The National Bee-Keepers' Union was organized some 15 years ago for the special purpose of defense, never held a meeting, but did successful work until about a year ago, when it was amalgamated with the United States Bee-Keepers' Union, and the organization resulting called the National Bee-Keepers' Association. About five years ago the original national bee-keepers' organization, which was started over 30 years ago, changed its name to the North American Bee-Keepers' Association. Then at the Lincoln, Nebr., convention in 1898 the name was changed to the United States Bee-Keepers' Union. This left two bee-keepers' unions in the field, both being national in character, and were the two that united into one society about a year ago.

2. So, as before stated, there is just one—the National Bee-Keepers' Association—now in America.

3. Its headquarters are at Forest City, Iowa, where its general manager, Eugene Secor, resides. The full list of officers was publisht on the first editorial page of last week's Bee Journal.

4. The annual dues, or admission fee, is $1.00.

5. Yes, the street cars run within one-half block of our new office, at 144 and 146 Erie street. The Wells street cars can be taken on what is known as the down-town loop, and for 5 cents you can come to our office from the center or main business part of Chicago. If one happens to get on a North Clark street car there will be no harm done, as this line crosses Erie street two and one-half blocks east of our office. But the least walking will be done by taking the Wells street cars.

6. We are usually not very good guessers, and so you will have to explain about your having had "only one birthday."

Management for Comb Honey.—Mr. L. Stachelhausen gives his method of producing comb honey as follows, in Gleanings in Bee-Culture:

As soon as the honey-flow commences, and the time arrives when we think it is best to set supers with sections on top of our hives, a hive is prepared with starters only. We bring it to the hive selected for the new manipulation. The old hive is removed from the bottom-board, and set aside to be handy for the following manipulation. The new hive is set on the old stand, and an empty hive-body on top of it. In all these operations I use smoke, and handle the bees somewhat roughly to cause them to fill themselves with honey. One of the brood-combs, with bees and all, is put into the new hive, and then all the bees brusht from every frame into this hive. The most important thing in this operation is, that the bees fill themselves with honey. A little sprinkling with a solution of sugar in water can be used if the bees do not suck up the open honey.

The combs from which the bees are brusht into the new hive are assorted into different empty bodies near by—brood-combs, honey-combs, or empty ones separately. It is not necessary to look for the queen. She is brusht into the hive with the other bees.

At last we remove the empty body, lay a queen-excluding honey-board on top of the new hive; and a super with sections (containing preferably full sheets of foundation and some bait-combs) is set on top of this, and the hive is closed.

The next day the frame of brood is removed, and more super room given if needed.

Propolisin.—As there is a possibility that propolis may yet become an article of commerce, the following from a report of a conversazione reported in the British Bee Journal will be of interest:

"Propolisin" was a remarkable product, medically used in liquid, not salve form as many supposed. It was considered to be a wonderful antiseptic, and had been employed successfully for wounds in South Africa. It was supposed to take the place of iodine, and some experiments showed that with about 3 percent emulsion of the liquid certain bacteria were killed off in two minutes, and other bacteria in three minutes. This "propolisin" was stated to be very useful for foot and mouth diseases. The mixture was also said to be very rich in oxygen and carbonic acid gas in a liquid form, and contained another alkaloid at present unknown. With regard to "propolisin," Mr. Harris would like to know, seeing that its antiseptic properties had been proved, what the general opinion was as to its efficacy in the treatment of foul brood.

Mr. Reid, who had examined the bottle and smelt its contents, said that the liquid smelt of benzoline, and might be a germicide. Mr. Brice suggested that the germicidal properties probably existed, if at all, in the "unknown alkaloid."

Mr. Reid said that propolis, when taken out of the hive, always contained wax; generally it was nearly half wax, and wax invariably contained propolis, except when just secreted. It was possible to separate five or six different substances by the use of various solvents, but what those substances would do, or whether they were specific antiseptics, it was difficult to say. The bees themselves used propolis as their chief antiseptic. They would cover over objects of aversion (such as a dead mouse), which got by any means into their hive with wax and propolis—always the latter—and they would cover over the antiseptic provided for them with their own, which was better. A large percentage of propolis would be found in the dark cappings of cells containing foul brood.

Mr. Hamlyn-Harris, in concluding the discussion on "propolisin," stated that the researches made by the inventor of the compound in question was sent up to the Medical Officer of Health for Prussia, and the latter gave his certificate that all the chemical and bacteriological properties thereof were as claimed.

A Suggestion for the National.—At the last meeting of the Chicago Bee-Keepers' Association the following was unanimously adopted:

WHEREAS, The National Bee-Keeepers' Association has provided that local associations may join it in a body by payment of 50 cents for each local member; and,

WHEREAS, Abundant advertising is necessary for the success of any enterprise; therefore, be it

Resolved, That we, the Chicago Bee-Keepers' Association, do hereby request and urge the National Bee-Keepers' Association to provide all local associations in America with printed matter setting forth the objects and aims of the National Association, so that the secretaries of such local associations may be able to put such printed matter into the hands of all bee-keepers in their territory and jurisdiction.

From the fact that there has been some call for information concerning the objects and work of the National Association, it would seem that there should be something printed for free distribution—that it furnish the desired information—so that it would not be so difficult for the officers of the local associations to get members.

It was at our suggestion that the provision was made in the constitution of the National Association to admit the members of the local associations at 50 cents each. We still

think that it was a good move, and believe that the provision would be taken advantage of if local bee-keepers understood about it, and especially if they were informed concerning the good work already done by the National, and also as to what it purposes to do, in the interest of every bee-keeper in America.

We trust that the board of directors of the National Association will act on the suggestion made by the Chicago Bee-Keepers' Association.

We also think that it would be a good thing if all the bee-papers would carry a standing notice, that every one desiring to learn about the work of the National Association could do so by sending to the general manager for literature that would explain the objects of the Association. It can not be expected that bee-keepers will unite with an organization until they know something about it. They must be led to see that it will pay them to do so before they will hand out their dollar-a-year dues. We believe that any legitimate organization will not suffer for the lack of funds if those who should be interested are shown that it is to their interest to support it, and that its objects are really wise, and for the advancement and defense of right principles and purposes.

Let the board of directors of the National Association prepare at once suitable literature as suggested, and begin its circulation as soon as possible thereafter, so that by the time of the next annual meeting its membership can be counted by the thousands instead of by the hundreds. We are ready to do our part in pushing the work of securing membership, thru the columns of the American Bee Journal, and have no doubt that the other bee-papers will do all they can along the same line. With united effort we believe there is no reason why the National Bee-Keepers' Association should not have a larger membership than any of the other agricultural organizations now in existence in this country. We believe the machinery of our Association is all right, and all that is needed is to work it. It needs to have its joints limbered up with the oil of enthusiasm, and the motive power of earnest effort applied to start it and keep it going.

Weekly Budget

Mr. O. O. Poppleton, of Dade Co., Fla., wrote us as follows, Jan. 29th:

"Bees are breeding nicely with an abundance in the hives. They would be gathering quite a little surplus honey now if the weather was only a little warmer.

"I had the misfortune, a couple of weeks ago, to drop the ax on my left forefinger, just above the knuckle joint, cutting it quite badly, and breaking the bone. The surgeon thinks the finger can be saved without its being stiff. It is doing fairly well now, but it will take a week for the bones to knit so the hand can be used. I don't find any special fun in being one-handed."

We regret to learn of Mr. Poppleton's accident, and trust that in time his finger may be all right again.

Editor Will Ward Mitchell, of the Progressive Bee-Keeper, after quoting the account we publisht in the American Bee Journal of Jan. 10th, concerning our "fire-water" disaster, gives this appreciated paragraph:

We regret our brother publisher's misfortune, and hope his many patrons will pay up any back dues at once, as Bro. York has been giving us his best efforts, and the "Old Reliable" is far ahead of what it ever was before. We know of nothing that would be more cheering to Bro. York than for deliquents to "pay up" and send in their renewals.

The Wisconsin Convention was held at Madison last week as previously announced. It was a good meeting, and quite well attended, considering the poor honey season the past year.

The officers were all re-elected for the ensuing year, as follows: President, N. E. France; vice-president, Jacob Huffman; secretary, Miss Ada L. Pickard; and treasurer, Harry Lathrop.

Next week we will have more to say about the meeting and some of those who attended.

A Dozen of the wealthiest capitalists in the country—men who wield absolute control over immense business enterprises—will tell the readers of the Saturday Evening Post (Feb. 16th) why they remain in the race which they have already won.

Each of them writes frankly whether he makes money for its own sake, for the sheer joy of working, or to gain the power with which vast capital invests itself. Curtis Publishing Co., Philadelphia, Pa.

Mr. H. C. Binger, one of our subscribers in Shiawassee Co., Mich., wrote us Jan. 28th as follows:

"Father past away Jan. 15th, at the age of 67. He was born in Meckleuburg, Germany; when 28 years of age he came to this country and settled at Rochester, N. Y., and there he was married to Miss Friedericke Fischer, who, with five children, survive him. In faith he was a Lutheran, and was a kind and loving husband and father."

Contributed Articles.

No. 12.—Interesting Notes on European Travel.

BY C. P. DADANT.

BEFORE I leave Paris and its surroundings, I must tell you of two very pleasant trips I took in company with my daughter and our good friend Mr. Gariel, of whom I have often spoken. The first was a visit to a manufactory of bee-hives and implements located in a small town—Chartres—some 60 or 80 miles out of the capital. The flying express took us there in the morning and brought us back in the evening.

Of the factory itself I shall say nothing. It was a busy place, but those of our friends who are acquainted with American factories would find nothing of interest in anything I might depict, for their methods are not as practical as ours, and the work turned out is not to be compared, as I said in a former article, to anything that is made here. But I could perhaps give instances of the great economy practiced in the saving of material. This factory manufactures hives only as a secondary business, their main occupation being the making of railroad supplies of different kinds. Well, I saw large piles of old railroad ties (which would be sold here for fire-wood) cut up into small pieces, and a good portion of the material set aside for the manufacture of a number of small articles which could very readily be cut out of this refuse. It takes more time, it is true, to pick out the sound wood, but the Europeans can not use our axiom, "Time is money," to as much of a purpose as we can, for altho with them time is also money, there are many things that are more valuable than man's time over there.

The cheapness of labor is very certainly responsible for some very queer notions. For instance, a certain manufacturer seriously asserted to me that it was cheaper for them to have the lumber planed by hand than by steam. "It costs so little," he said, "and the work of a smoothing-plane is always neater than that of a steam planer. And in the use of second-hand lumber we need not be so afraid of the nails which would very soon spoil the steam knives." I tried to discuss the matter but it was of no use, and it is also evident that many working men do all they can to discourage the employment of time-saving devices which they consider as their enemies.

We were splendidly treated by the manager, who is evidently an able man and who askt me a number of questions about America and its factories. He was well acquainted with a gentleman who was in the employ of the railroad company as civil engineer, and who had been sent to America to buy a number of locomotives, and whom I happened to meet on our trip across the ocean, so we had quite a talk about the great steps that America is making in her trade with the world at large, and the numerous exports which are just beginning to bring the New World into competition with the Old.

We partook of a very nice dinner in his home, close by the factory, and employed the afternoon hours previous to the departure of the train, in walking about the old city, its walls, and the little stream which runs at their foot and in which the housekeepers were busy washing their linen. It was very picturesque. On another day we went with Mr. Gariel again, to visit an old and experienced bee-keeper—Mr. Delepine—cure of Meulan, within an hour's ride of Paris. Mr. Delepine is not only a practical apiarist, but is also a writer on bee-culture. He writes regularly for the weekly journal entitled, "La Gazette du Village," which might very properly be called the "Farm Journal" of

France, for it is a neat, newsy, and practical farmer's paper, full of interesting information. The trip to Meulan reminded me very much of "L'Abbe Constantin," by Halevy. I have no doubt many of the readers of the American Bee Journal have read that little book, for it has been translated into English and has become a classic.

Well, the kindly, good-humored cure, his old servant, his little garden, the little church, the little village, and even the big castle at a short distance on the opposite side of the road—all these things lookt familiar altho seen for the first time. We found ourselves there with Mr. Giraud, whom I have mentioned as so successfully putting in practice the Doolittle method of queen-rearing, and with an old gentleman—a count who kept bees for pleasure—and we had quite a talk on America and our American celebrities in bees. If I am not mistaken, two of the persons present could read English and had read Gleanings and a few copies of the American Bee Journal and "A B C of Bee Culture." Why it is that so few of the French can speak or read English is more than I can comprehend, but they seem to think it much more astonishing that not all foreigners can speak French. They seem to think that the French language ought to be an indispensable part of any good education.

Entrance Gate to the City of Chartres, France.

I think this makes the French more exclusive than other nations. Then their literature seems to encourage them in their ideas of exclusiveness, for it is certainly very wealthy in able works and books which have become classics, and more translations seem to be made from the French than from any other tongue.

We left Meulan after a very pleasant chat and a visit to the fine park of the castle across the way.

What a difference between European and American landscapes! I vainly tried to imagine myself in America, at different times. There was always something in sight to dispel the illusion. The village houses huddled together as in a nest; the white walls and red tile roofs; the magnificent country roads with their avenues of trees on each side; the little patches of land looking for all the world like so many handkerchiefs lying side by side in the sun; the smooth little streams of water, running quietly even tho full to the edge of their grassy shores, and shaded with willows and poplars along their windings; the herded cattle, the two-wheel carts and their heavy loads, even the country buggies, showed me that this was another world. O, those buggies! What a look of contempt our farmer boys would give them! They are not buggies, but carts very gaudily painted, but so heavy! Wheels five feet high, shafts made of 4x4 timbers, springs to suit, harness ditto, and a big Percheron for a trotter. I nowhere saw one of our American spider-web buggies. I have no doubt that there are some in Paris, yet they must be scarce. There are plenty of fine carriages, and expensive equipages, but you can not, on the public roads, meet a light top buggy at every turn. Their lightest buggies are made to last, and are heavy in every particular. This seems an absurdity, for such vehicles as we use here, on our abominable American roads, would be a delight over there. The harness also is heavy. It seems as if they were afraid the horse would break it, and there is enough leather in the lightest harness to make three such harnesses as our buggy-horses wear.

A Few Words of Comfort for "Old Grimes."

BY "THE MILLER O' THE DEE."

"Old Grimes is dead: that good old man,
We ne'er shall see him more."

SO the old ballad has it, but it now seems that he was not dead, but sleeping—aye, sleeping long years, like Rip Van Winkle, and he has only just awakened. (See page 20.) Poor, sleepy Old Grimes, who would have thought that one of your kindly, genial, helpful nature would have put even the semblance of discouragement in the way of any one, even of one so lost to all rectitude as to try to invent new devices in beedom?

You kindly old men did, indeed, beat paths for the rest to follow, even as our forefathers blazed the rude trail to the frontier; but who now would care to stumble over the logs and stones of such paths, when the same end may quickly be reacht by automobile? Those old paths are full of pretty places, romantic spots and picturesque corners where wild flowers lend their sweetness and the drowsy hum of the bumble-bee invites one to tarry and repose. We all love those places to rest in, and the companionship of the placid plodder of these byways, but they are not for present-day commerce, nor can we travel over them in up-to-date vehicles.

The feeling which caused you, dear Old Grimes, to complain, is but a sound and safe conservatism allowed to run riot. But then, we must needs be charitable to you, for your article clearly shows that you have in mind only the devices shown in ancient times, and which indeed needed bees from fairy-land to construct combs for use in them.

What a nightmare your dreams have been, for now, just half awake, you mutter of slicing-machines, of hills and hollows, of long adjusting, of high prices, of revolutions, of systems, of new outfits, and other fits and misfits. Come, come, Father Grimes, take a cold plunge, shake thyself and awake, for thou art still more than half asleep. Thy ideas and reasoning bespeak of cobwebs in thy brain, and are not worthy the 20th century.

'Tis far from the thoughts of these troublesome inventive fellows to put obstacles in the paths of you old fellows—no, no! they would much rather help you into the broad, smooth highway, and when you longingly turn from its rush and bustle into the sweet, tho sleepy, quiet of the old paths, they would furnish you with a rugged cane to help your tottering steps over its stones and hummocks.

I know a little about some of these new-fangled machines, and to save you from further worry let me whisper to you that an uncapper costing $20, and that has to be "adjusted," is as far from the realized dreams of those ingenious fellows as you can imagine. No, they do not cost nearly so much, and their capacious maw will take all the combs as they come, and deliver them to you neatly *uncapt*, and at the rate of 20 a minute, if your trembling hands can feed them in so fast.

Dear Old Grimes, we all love you for your kindly charities, and for that quaint figure in its "old black coat, all buttoned down before," even tho the color is now rather gray from the dust of many years.

So let us help you as you tread
That path of olden times;
All undisturbed, rest in thy rut
For evermore, Old Grimes.

Getting Bees to Swarm—Requeening, Etc.

BY EDWIN BEVINS.

LAST spring I discovered a means of getting bees to swarm at almost any time when swarms are desirable. One of my colonies was wintered in two sections of a sectional 8-frame hive, sections 7⅜ inches deep. Early in May the colony got so strong that in order to prevent swarming I placed another section under, filled with drawn combs. When supering time came, I raised the upper story and put a queen-excluder under them, then shook the bees from every frame down in front of the entrance. I felt sure the queen was below, and expected the brood in the upper story to mature and make room for honey to be stored there by the time there would be much to store.

No further attention was paid to these bees for several days until one day a neighbor exprest a desire to look over the apiary. In showing him around I happened to raise the cover of the hive and lift some of the combs. To my surprise I found brood in all stages of development, and every

comb full. On one of the combs I found the queen and put her below. The next day but one, some one coming into dinner said the bees were swarming. I said, "What are the bees swarming for? I don't believe there is a queen-cell in the yard." But noticing that the air was full of flying bees I went out to see what hive they were coming from. It was from the hive in which I had put the queen below the day but one before. The cause of the swarming was not hard to understand. The bees clustered in two places, and, suspecting that each cluster had a queen, I hived them in two hives. One cluster was large, and I hived it on 9 Langstroth frames; the other I put into an 8-frame dovetailed hive. Each cluster had a queen.

After hiving them I went to see what was going on in their old home. I found a queen in possession there, and quite a number of cells, from which the queens had issued. I reduced the old hive to two sections, and left it that way for the balance of the season. When packt for winter it was so heavy with honey that I did not care to lift it. The two swarms stored their winter's supply, notwithstanding the season had been an unusually poor one for honey. These were all the swarms I had the past season.

Another colony wintered in two 10-frame dovetailed hive-bodies on 17 frames, had a queen nearly or quite as prolific as the one just mentioned. The last of April the two stories were so full of bees that I put another story under, containing 9 frames. About the first of June the three stories seemed to be full of bees. An examination showed that there was no brood in the lower story, but the one above, which also contained 9 frames, was practically full of brood, and the upper one seemed to be about half filled. As the upper story contained much honey I removed the middle story to another stand, knowing that most of the bees would go back to the old location. I did not see this colony again for several days, but when I did I found a queen on the first comb I raised. Another mature queen was found on another comb. Then I formed a nucleus and gave it to one of the queens. The queen left in the hive proved to be an uncommonly good one, even if it was reared in a manner which queen-breeders generally condemn.

SELECTING A HOME BEFORE SWARMING.

Do bees intending to swarm hunt up a place to go before the swarming takes place? I guess they do sometimes. One season I noticed bees in great numbers entering a hive which stood on another hive at the upper side of the bee-yard. The hive had some empty combs in it. I lookt about to see where the bees were coming from, and found them pouring out of a hive at the lower end of the yard and taking a bee-line for the hive at the upper end of the yard—a distance of about 4 or 5 rods.

REQUEENING COLONIES IN THE FALL.—MAILING QUEENS.

I unqueened and requeened one-fourth of the apiary last fall. Most of the work was done in October, but it was not finisht until some time in November. One reason why I like to do this work so late in the season is because in almost every instance I found the bees two deep, and as they have nothing from which to start queen-cells I don't have to be very particular about the time of introducing. In two instances there was a little brood, but as the queens were delayed I had a chance to destroy queen-cells.

The queens were from different parts of the country, and from breeders of good repute, and I have reason to believe they were all safely introduced.

I shall continue to order queens to be sent thru the mails, as I do not believe that many are injured in transit. Four queens ordered last fall were received dead. One of these was delayed in the mails at a time when the weather was hot. Two others had received such a shock that the cages were split from end to end, and had been tied up with string. The other cage had the queen and the bees all dead in it, doubtless caused by the same shock which split the cages of the other queens, as they came in the same mail.

When I received queens with pasteboard covering the entrance to the candy it was promptly torn off, and I had no queens killed in consequence of being releast too soon.

I do not think that Mr. Fred Tyler need to worry about his bees getting too warm packt as he describes on page 766 (1900). Decatur Co., Iowa, Jan. 7.

The Premiums offered this week are well worth working for. Look at them.

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 86.)

MELTING CANDIED EXTRACTED HONEY.

QUES.—What is the lowest temperature at which candied honey will melt?

Mr. Aikin—I *think* about 100 degrees, or a little better, but you must continue the heat for a long time; about 110 to 120 degrees will melt it in a few hours. The highest degree that I wish to subject my honey to is about 160 or 170 degrees; beyond that it begins to spoil the flavor. An additional question on the same sheet is: "What is the highest temperature it will bear without injury?" About 160 or 170 degrees is high enough. I would rather melt at 140 or 150, keeping it a longer time at that degree than to use the higher temperature.

APIS DORSATA AND THE NATIONAL ASSOCIATION.

QUES.—What is the attitude of this Association in regard to importing Apis dorsata, the big bee of India?

Mr. Aikin—If I am to answer that, I believe it is opposed. I don't know.

Dr. Mason—Opposed until we know more about it.

QUES.—Have any steps to procure or test these bees been taken?

ANS.—Yes, there have.

Mr. Benton—The attitude of this society did not seem to be that at the Buffalo convention, and I was wondering whether it had changed, considering your answer.

Mr. Aikin—I judged from the sentiment as exprest thru the bee-papers of late—I said I thought, I do not know. I suppose the only way we could come at it would be by taking the temperature of the people here now. Are you thru with this subject?

REQUEENING AN APIARY.

QUES.—What time of the year is best to requeen an apiary, all things considered?

Mr. Aikin—Dr. Mason, answer that.

Dr. Mason—Why, I really don't know. I prefer to do it during the honey-flow, myself, and by natural methods. I don't use the artificial methods.

A Member—Early or late?

Dr. Mason—Late.

A Member—How late?

Dr. Mason—For convenience, that is all. I don't believe it makes any difference as regards their good qualities which stage, early or late.

A Member—You would say just after the honey-flow?

Dr. Mason—Just as it is closing up, before it closes. They must have the vim and energy they have when the honey-flow is on.

A Member—How often would you requeen?

Dr. Mason—Once in two years.

MATING IN CONFINEMENT—SPREADING BROOD.

QUES.—Can the queen mate with the drone if the queen and drones are confined in a tent or other inclosure, say 200x100 feet?

Dr. Mason—No.

QUES.—Is it any benefit to spread brood in early spring?

Mr. Aikin—Prof. Gillette, please answer that.

Prof. Gillette—Let some one with more experience answer that.

Mr. Poppleton—Yes.

A Member—Sometimes it is, and sometimes it is not, depending principally upon the man or woman who manages it. If you know how, it is all right; if you don't know how, go slow.

KEEPING EXTRACTED HONEY.

QUES.—How long will extracted honey keep?

Dr. Mason—I don't know; it has never been tried.

Mr. Aikin—I have some that is getting to be pretty nearly half as old as I am.

Mr. Coggshall—I have some 30 years old.

Mr. Aikin—Is it good?

Mr. Coggshall—I haven't opened the package.

Dr. Mason—I have some that is 15 years old that stands open—good yet.

TO PREVENT GRANULATION AFTER FEEDING.

QUES.—For feeding what would you put with sugar syrup to prevent granulation, and what proportions?

Mr. Aikin—Some use honey; I never had any experience, I can't answer it.

Mr. Hutchinson—Honey is all right for that; about one-quarter honey is all right.

Mr. Benton—One-fifth will do.

Mrs. Acklin—Percolate the syrup and you don't have to put any honey in.

WHAT TO DO WITH FERMENTING HONEY.

QUES.—What can you do with frames of honey that is fermenting?

A Member—Extract it and sell it.

Mr. Aikin—Feed it to the bees, or make vinegar of it.

A Member—Will it do to feed to the bees?

Mr. Aikin—I wouldn't feed it to the bees any time except when they could fly freely, and I have some doubt about it then; I said that because somebody else was recommending feeding.

SPENDING THE FUNDS OF THE ASSOCIATION.

QUES.—How large a percent of the funds of this Association should be used in the prosecution of adulterators of honey?

Mr. Abbott—It depends upon circumstances. We would have to decide that when the case came up.

QUES.—Would this Association deem it better to have a good, fat sum in the treasury, or should the money be very nearly exhausted each year in the various lines of work for which the Association was organized?

Mr. York—I think it ought to spend its money in the interest of its members. If more is needed at any time for legitimate purposes, call for more from the members.

Dr. Mason—Money is no good when it lies idle.

AN ASSOCIATION BRAND FOR HONEY.

QUES.—Should this Association prepare an association brand as a guarantee of purity of honey, which it can supply to certain applicants upon the unanimous approval of the board of directors?

Mr. Aikin—For my part I would answer that in the negative, until this Association becomes more properly a business concern.

BEES POISONED FROM UNTIMELY SPRAYING.

QUES.—Is it a fact that bees are poisoned and brood killed when fruit-trees are sprayed while the trees are in bloom, and the bees are visiting them?

Mr. Aikin—Colorado people say yes.

Mr. Benton—Other people say yes.

Mr. Aikin—A person in my county was convicted and fined for spraying his trees while in bloom, and thereby killing his neighbor's bees.

Mr. Prisk—I think in referring to that the other day, when I spoke about the sulphuric acid killing the bees where the smelters were, somebody made a reply that they thought that smelters did not kill the bees. In our town we have large smelting works, and in our yard, and for blocks around, everything is killed. I have known arsenic to collect to a large amount in a few hours and to kill the shrubbery around there, and we thought that probably it fell to such an amount on the bloom that that killed the bees. We noticed the bees always came home as if they were tired out, and did not leave their hives.

ARRANGEMENT OF BEES WHEN SUPERING.

QUES.—When putting on the supers for comb honey should the natural arrangement of the brood be interfered with?

Mr. Hutchinson—I should say no.

Mr. Hatch—I wrote that question myself, because I tried an experiment this summer that convinced me it is profitable to interfere with it, and judging from this one experiment I should say decidedly it should be. My experiment was to move all the eggs and unsealed larvæ to the outside of the hive, to fill the hive full of brood, and put all the bees and unsealed larvæ clear on the outside. The result was I got a big yield of comb honey, and the outsides were filled up first. Whether it would work always that way or not I don't know. Of course, I only tried it one season; but I think it is a subject worthy of further experimentation.

Mr. Abbott—Mr. Hatch is appointed to experiment next season.

Mr. Hatch—I undoubtedly will.

THE HONEY CROP AND HANDLING.

QUES.—What percentage of the national honey crop is represented by the membership of this Association?

Dr. Mason—I don't know, and I don't believe anybody else does.

QUES.—Would it be practicable for the Association to handle the crop of 1901 for its members?

Mr. Abbott—No, nor at any other time.

Dr. Mason—I don't believe that; that is, the last part of Mr. Abbott's statement. I'm a firm believer in co-operation.

QUES.—If impossible, by what obstacles is the possibility precluded?

Dr. Mason—That matter is like all other matters—it has to develop itself slowly. I believe that this Association will some day get in position to handle the honey of its members; can't be done yet; it is going to take time.

A Member—Is it not possible for this Association to go into a joint-stock corporation and handle all their honey, buying all the honey in the country and handle it for the benefit of the members? I think it is possible. I don't see anything to prevent it, if all the honey could come in here and be graded by disinterested parties.

Dr. Mason—Are you asking me that question?

A Member—Yes, sir.

Dr. Mason—I think I can answer that question. I don't believe there are a dozen members of this Association that would be willing to ship their honey and wait for their pay; it takes money to run any business. Will you put the money in?

A Member—The honey will bring the money.

Dr. Mason—It has to be handled, and all bills paid; it takes money to run any business; this has to be developt.

A Member—Why can't the bee-keepers furnish that money pro rata?

Dr. Mason—Well, I don't know why they can't; but will they?

Mr. Aikin—I would like to say for the information of all interested, that some of us in Colorado have been thrashing that ground over and over again in the last four or five years, until we have got down to a working basis; I am going to tell you a little of it to-night.

QUES.—Should this Association undertake to find a market for its members?

Dr. Mason—It is answered in what has already been said—not at present.

WIDE AND DEEP HIVE-ENTRANCES.

QUES.—Is it an advantage during hot weather to use wide and deep entrances in the production of comb or extracted honey? If so, is there any danger of going to an extreme?

Mr. Wood—I use both large and small entrances, and I see no difference. I use chaff cushions on top of my hives the year round, and I find them better than none at all.

COMB FOUNDATION—COMB HONEY.

QUES.—Is it more profitable to use thin foundation than extra-thin in supers? and, if so, why?

Mr. Aikin—I believe extra-thin would be my answer, and the why of it as put before us this afternoon by Prof. Gillette.

QUES.—Is comb honey in drone-cells as pretty and as white as that in worker-comb?

Mr. Aikin—It depends upon who is looking at it: ordinarily it doesn't appear as white looking.

REMOVING SUPERS—HONEY OOZING OUT.

QUES.—When should the supers be taken off?

Mr. Aikin—When they are full, and the unfilled ones as soon as the honey-flow stops.

Mr. Holdren—What is the cause of honey oozing out of the cells after it is filled all up in that way?

Mr. Aikin—I don't know why it is—fermentation, perhaps.

Mr. Holdren—What causes the fermentation?

Mr. Aikin—I wouldn't know how to answer that, unless it is too much water—unripe honey.

Mr. Holdren—I had my honey in a very light place upstairs, and some of it oozed out in that way.

Mr. Abbott—Bees frequently gather honey that will ferment, especially in localities where there is basswood. Sometimes bees gather honey during damp weather that they can't fully ripen, and I have had large quantities of it ferment in that way, and just as soon as it becomes ripened it will granulate. In some seasons I was troubled badly with it in Missouri, and other seasons I would not have any of it. I think it is owing to the dampness of the honey when gathered, the bees not being able to ripen it fully.

(Continued next week.)

Report of the Utah Bee-Keepers' Convention.

BY A. F. STEVENSON.

The Utah State Bee Keepers' Association held its annual convention in Salt Lake City, Oct. 6, 1900.

The meeting was called to order by Pres. Lovesy, and after the reports from committees were read he gave some general reports from different parts of the State. The meeting was then thrown open for discussion of topics of general interest to the fraternity.

GENERAL REPORTS FROM MEMBERS.

Andrew Nelson, of Emery Co., had harvested a very good crop of honey during the past season, but he said that something was wrong with some of the bees, possibly foul brood, and, if so, he would like to know of some way to get rid of it. The condition of the brood was described, a discussion among some of the experienced bee-keepers followed, and they decided that it must be pickled brood. Some time was taken in discussing cures for foul brood. The bees should be lookt at early in the spring, and if any brood is found with the backward presentation it is sure to turn out to be foul or pickled brood, and when such conditions are in evidence the bees should be transferred onto foundation in clean hives; but if they are left until rotten it is best to destroy both bees and brood.

James Jackson, bee-inspector of San Pete Co., said there was some foul brood in Mt. Pleasant and other parts of the county, and it seemed to be almost impossible to get rid of it entirely.

Mr. Lovesy found in 10 years of experience that it was always best to transfer the bees just as soon as the backward presentation was noticed, even if at a time when the bees would have to be fed, as even at this early stage the disease will have been in the hive two weeks or more, and the young larvæ in their agony have turned over, leaving the head in the bottom of the cell, which makes it impossible for them to hatch out.

Joshua Terry, of Salt Lake Co., reported a poor crop, and the situation very discouraging. His bees had dwindled from 90 colonies to 15, the principal cause being smelter-smoke. Mr. Cornwall of the same county was also a heavy loser from the same cause. He moved some of his colonies several miles from the smelter-smoke, and they continued to die for a week, after which they began to do better, while all of those left at home soon died. A resolution was adopted authorizing the Association to use all possible legal means to get rid of the nuisance.

L. Yeale, of Tooele Co., reported a fairly good crop, tho not as heavy as in former years. Several reported a light crop in the southern part of Davis County, while in some of the northern portions the flow was good. They reported some cases of foul brood, and no inspector to attend to it, tho they expected to have one soon.

Mr. Nelson gave his experience in packing for winter with burlap, straw, chaff, etc. Mr. Stevenson was also successful in packing with straw and chaff mixt, raising the covers about $\frac{1}{3}$ of an inch for ventilation.

Geo. Hone reported that Utah County had produced only about half the amount of honey secured in other years. In speaking of winter packing he thought that two or three thicknesses of burlap over the brood-frames, with a super on top, was a good way.

Frederick Schach, of Salt Lake Co., reported a poor crop; he thought packing for winter was all right, but the bees must have sufficient ventilation or they would sweat, get weak and damp, and then die.

A general discussion followed in regard to exhibiting at Fairs, and also in regard to the purchasing of bee-supplies and disposing of the products of the bee. A vote of thanks was tendered the officers of the Association for their efforts in supplying members with information as to honey prices, as this had a tendency to keep up prices, and thus benefit the bee-keepers and the industry.

Several from Weber County had a full average crop, some of the bee-keepers there averaging more than twice the amount of both comb and extracted that some bee-keepers in Salt Lake and other counties secured. Mr. Reese secured over a car-load of No. 1 extracted honey. As prices have been above the average this season he is one of the lucky ones.

THE PRESIDENT'S ANNUAL ADDRESS.

The many reports we have received taken as a whole are not very flattering or encouraging. While we have received some flattering reports of a good honey-flow and a good crop for bee-keepers in the southeast and south central parts of the State, further south they have not been as good; and while in the northern parts of the State the reports have been fairly good in some localities, in the north central parts, owing to drouth and grasshoppers, the reports have mostly been from $\frac{1}{4}$ to $\frac{2}{3}$ of a crop, the average in some instances being as low as 30 to 35 pounds. One of the remarkable features of the season has been that while there was very little honey in some localities, in favorable localities a few miles distant there would be a good honey-flow. These favored spots were generally in or near the base of the mountains, where there was plenty of irrigation, and few or no grasshoppers. To many of our bee-keepers the last year of the century will prove an exasperating failure. Altho we had a beautiful spring, the dry, hot June—the hottest ever known in the State—dried up the bloom and irrigation; and as misfortunes seldom come single-handed, then came the grasshoppers in such numbers in some localities that they ate everything green. When things began to look discouraging, both for the past season and the next, our friends—the gulls—came by the tens of thousands and devoured the grasshoppers by the wholesale. So most of the bees have plenty of honey for winter, with some surplus, and the chances are more favorable for another season, on account of the work of the gulls.

The Association has been of material benefit to many of our bee-keepers, in keeping them posted as to the value of bee-products; we have been duly assisted in this matter by Mr. F. L. Thompson, of Colorado, and the bee-keepers that have been governed by the advice given, have saved money by it. This union of interest is certainly a step in the right direction, and we hope it will be extended to the purchasing of supplies next season. Too much credit can not be given Mr. Thompson and others in their unselfish interest in this matter.

The smelter-smoke is still a matter of much concern to many of our bee-keepers. This matter has been thoroly tested in Salt Lake County the past season, by placing colonies of bees in different directions and distances from the smelters, and we find that all bees placed within five miles of the smelters in the direction the wind usually blows, die off in from three to five months, while many 8 or 9 miles away die during the year. But bees placed within two or three miles of the smelters in the direction that the wind does *not* blow, do not seem to be affected at all. It has also been proven that much stock and vegetable matter have been destroyed by this smelter-smoke. Arsenic, or something of that nature, settles from the smoke on the trees and plants, causing a destruction of life, as stated. In the light of these facts some method should be adopted to have this poisonous smoke consumed, or otherwise prevented from being sown broadcast as it now is. E. S. LOVESY.

Mr. Ulrich Bryner, of Carbon Co., said that his bees were in good condition, and had done better this season than ever before. He secured 200 60-pound cans of extracted honey from 85 colonies.

Thos. Neilson, of Sevier Co., reported that the season's crop was considerably below the average.

Mr. Balliston, of Juab Co., reported a fairly good honey-flow in that county, but not as heavy as it had been in some years.

J. A. Smith, of Wasatch Co., reported a fairly good crop for his county, altho they had harvested larger crops in other years. Wasatch is one of the counties in which there is a good flow of first-class honey in ordinary seasons. Mr. Smith heartily endorst the efforts of the Association in trying to keep up the prices of bee-products, thereby aiding the bee-keepers in building up the industry.

Uintah County reported the best honey-flow of the season, and is the banner county of the State. A score or

more of the principal bee-keepers of the county harvested 318,400 pounds, and altogether the county has produced about 500,000 pounds the past season.

After a discussion on how to increase honey-producing plants the meeting adjourned, subject to the call of the president. A. F. STEVENSON, *Reporter.*

Salt Lake Co., Utah, Oct. 27, 1900.

"The President's Message" to the Ontario Co., (N. Y.) Convention.

BY W. F. MARKS.

ANOTHER year has past since last we met, and left us, as honey-producers, richer only in experience, the past season being the poorest season for honey ever known in our county if not thruout a large portion of the continent. But altho the past season has been the poorest of several poor seasons with us in the production of honey; altho our bees have failed to gather us any surplus, we can feel that our labor has not been in vain, for our pets have never yet failed to fulfil faithfully the prime purpose for which they were created, whereby all are benefitted.

Miss Morley says, "The Vedic poets sang of honey and the dawn at the same moment, and all the succeeding generations of India have chanted honey and its maker into their mythologies, their religions and their loves."

"The philosophers of Greece esteemed the bee. And without honey and the bee the poets of Hellas would have lackt expressions of sweetness that all succeeding ages have seized upon as consummate."

"The Latin writers studied the bee not only for its usefulness as a honey-maker, but because of its unique character for industry, for its skill as a builder, and for its wonderful sagacity in its social organization."

"Modern writers are principally concerned with the structure and habits of the bee as revealed by modern science, and particularly with the part played by it as a fertilizer of the fruits and flowers."

"To fertilize the flowers has always been the office of the bee, as we can see now that the processes of nature are understood."

"At the present time sugar has superseded honey as an article of every-day use. Honey has lost most of its importance in the family life, but not so the bee, for we know that it does inestimable service in perfecting the fruits of the earth, and that without it our orchards would be lean and our gardens barren."

Notwithstanding the acknowledged importance and necessity of the bee as a factor in agriculture and the arts, we are to this day called upon to fight for its very existence.

At the last session of the legislature the opposition, I have reason to believe, started in to repeal our excellent spraying law; but, finding that its friends were awake and ready for the fray, they contented themselves by asking for an amendment to the law to allow experiments by the directors of the experimental stations at Ithaca and Geneva. Originally the amendment had the words, "whenever and wherever desired in this State;" we had these words stricken out. As finally amended, believing that the proposed experiments would sustain the bee and strengthen the law, it was allowed to pass without further opposition. These experiments have not yet been publisht. Perhaps it will not be proper for me to anticipate the result of these experiments, but I have reason to believe, from what I can learn, that we have nothing to fear from them, and that they will only emphasize the fact that it is not only unnecessary but absolutely injurious to spray during bloom. I learn that in one of the experiments of spraying in bloom, the yield of fruit was just one-half of what it was where the spraying was done just before the blossoms opened. That certainly is not "making two blades of grass grow where one grew before," but the very reverse. The result in all the experiments may not have been as emphatic as this one; it could hardly be expected.

Plato in his laws written 370, B. C., makes it a crime to poison bees. His law translated reads as follows: "He who employs poison to do an injury, not fatal, to a man himself, or to his servants, or any injury, whether fatal or not, to his cattle or his bees, if he be a physician, and be convicted of poisoning, shall be punisht with death; or if he be a private person the court shall determine what he is to pay or suffer." Thus it will be seen that we have a precedent that was establisht nearly 2300 years ago.

"The mills of the gods grind slowly." It is thus with the Apis dorsata enterprise that you have so persistently advocated. I can assure you, however, that this undertaking is certainly making progress; one thing is certain, Providence is on our side, and, altho he has not yet succeeded in importing these bees, he has given us their native land, and dorsata is getting accustomed to the star-spangled banner. I believe they are willing subjects, as there are no reports of their having joined the insurgents! I trust the opposition will not start such a report, and that they have stung, perhaps killed, one-half, more or less, of our little army, and driven the balance into the China Sea! Yet such a story would be just as reasonable as many that have been circulated in relation to this bee.

Perhaps the subject of marketing honey is quite out of place this season, owing to the fact that we have none to market; but if we should be fortunate enough to secure a crop again we should endeavor to maintain prices now that they have advanced.

The National Association has recently issued a pamphlet, larger and more complete but similar to the one we publisht over a year and one-half ago. Such pamphlets are very useful. I wish that all this matter—showing the relation of bees to horticulture—that has been publisht by the Department of Agriculture, the various experimental stations, and other recognized authorities, with the experiments now being made at Ithaca and Geneva, in relation to spraying in bloom, with accompanying illustrations, could be publisht in one bulletin. This matter of the bee and its importance to agriculture can not be proclaimed too much—the people should be made to realize their obligations to the honey-bee.

I will briefly call your attention to Article 3, Section 2, of the Constitution of the National Bee-Keepers' Association, which read as follows:

"Whenever a local bee-keepers' association shall decide to unite with this Association as a body, it will be received upon payment by the local secretary of 50 cents per member per annum, provided that the local association's membership dues are at least $1.00."

This is carrying out the ideas embodied in our State organization, and, if adopted by our association, would admit us to membership not only in our county and State associations, but in the National also, and all for the small price of $1.00 per annum. I would recommend that our constitution be amended so as to enable us to take advantage of this provision of the National Bee-Keepers' Association.

In my several previous messages, with which you have been afflicted, I have by turns coaxt and scolded the bee-keepers of the county for carelessness, or indifference, shown by them for not taking greater interest in these meetings. The fact that you have realized but little from your bees for a couple of seasons should not deter you from aiding and strengthening our organization. The more interest you take in it the more pleasure and benefit you will derive from it. Do not wait for the secretary to urge you. Each of you has some subject—perhaps several—relating to our pursuit, upon which you have well-founded ideas. Notify the secretary, and let him put you on the program. Take pride in our organization and pride in our pursuit; it may not be the largest industry, but it is just as honorable as any. Bees are said "to have been the heralds of civilization, steadily preceding it as it advanced." That they have always been held in high esteem by man can not be questioned, as they are mentioned as far back as history extends. They figured in the symbolical history of Egypt nearly 4,000 years B. C., showing with what esteem they were held nearly 6,000 years ago. Let me repeat, take pride and interest in your pursuit, that the bee may ever remain where history and science place it—the most interesting and important member of the animal kingdom.

The Chicago Convention Picture is a fine one. It is nearly 8x10 inches in size, mounted on heavy cardboard 10x12 inches. It is, we believe, the largest group of bee-keepers ever taken in one picture. It is sent, postpaid, for 75 cents; or we can send the American Bee Journal one year and the picture—both for $1.60. It would be a nice picture to frame. We have not counted them, but think there are nearly 200 bee-keepers shown.

The American Fruit and Vegetable Journal is just what its name indicates. Tells all about growing fruits and vegetables. It is a fine monthly, at 50 cents a year. We can mail you a free sample copy of it, if you ask for it. We club it with the American Bee Journal—both for $1.10.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Boiling Foul-Broody Hives—Newly-Hived Swarm Leaving.

1. If I boil hives and frames that have been taken from foul-broody bees, will it kill the germ? and will they be safe to put bees in again?

2. Can one tell whether the disease is foul brood or pickled brood when it is found in an early stage? If so, how?

3. Last season in swarming-time it was quite warm, and in hiving bees they would leave the hives soon after being put in. A remedy was tried of cooling the hive with cold water, and after letting it drain put the bees in, but they would leave them. Mint was tried, and had but little success. The hives were new, and had foundation on each frame. Please suggest a remedy. What do you think was the reason of their deserting? UTAH.

ANSWERS.—1. Yes, and some good authorities say it is safe to use a hive of the kind without boiling.

2. You can hardly be certain till some advance has been made. Look up the subject in the last volume of American Bee Journal.

3. When a swarm is hived and leaves the hive, in a large proportion of cases it is because the hive is too warm. Sometimes wetting with cold water will help, but if the hive stands in the sun it may still be hot in spite of the wetting, especially if the hive is close. Let the hive be raised from the bottom-board, and perhaps the cover open a little for a day or two. Some give to a swarm a frame of brood. Bees are not likely to desert this.

Queen and Swarming Questions.

1. What percentage of queens reared by a strong colony, and then 3 days before hatching being given to nuclei, would swarm the same year?

2. What percentage of virgin queens would swarm, if allowed to hatch before being introduced to nuclei?

3. Would it be better to let each nucleus rear its own queen, providing each had 4 or 5 frames of sealed brood with one containing some eggs, and all being well covered with bees?

4. What would be the best method to increase from 30 to 55 colonies and keep swarming down?

5. Would it make any difference in the harvest if all old queens were replaced by virgin queens 45 days before the flow? or would it be better to give them fertile queens of this year's rearing? and what difference would it make in swarming? SUBURBANITE.

ANSWERS.—1. I don't know. If you will tell me what will be done with the queens afterward, I may be able to tell something about it. Your question is such as to suggest that you suppose a queen reared in a strong colony and given to a nucleus three days before hatching will give results as to swarming quite different from one that has not been given to a nucleus. I doubt that. It is not so much what has been done before the queen begins laying, as it is what has been done after.

Let me try to answer fully the spirit of your question, for there are some misconceptions likely to be entertained in the minds of beginners. It is a commonly believed opinion that a queen of the current year's rearing is not so likely to swarm as an older queen. The belief is right. And it is wrong. It all depends. Formerly it was held as a sure thing that a queen would not swarm before six months of age. At that time it was probably correct. Latterly the opinion is held that a young black queen of the current year will not swarm, but an Italian queen may. There may be some difference between blacks and Italians in this respect, but I'm a little skeptical as to its making much difference. I think the rule was true of blacks before Italians were introduced—not because they were blacks, but because of the treatment they had.

Before the introduction of Italians, there was little in the way of changing queens, making swarms by dividing, etc. Bees were left pretty much to their own devices. Leave them to their own devices to-day, and you may count that a young queen of the current year's rearing will not swarm till the next season, whether black or yellow. In other words, if a young queen is reared in a colony in the neighborhood of the swarming season, and left in that colony, that queen and that colony will not swarm that season. I'm not so sure that any satisfactory reason can be given, but the fact seems to be well establisht.

If a queen is reared this season, and after being reared is put in a hive where conditions are favorable for swarming, her age will not prevent swarming. Let a colony be on the point of swarming, or take it immediately after it has swarmed and the swarm has returned; take its queen from it, and give it another queen, and that colony will swarm without regard to the age of the queen. I once had a colony swarm and return (the queen was clipt), and I took away their queen, giving in its place a young queen that had not been laying more than two or three days. Promptly that swarm came out with the young queen not more than two days later—I think it was the next day.

If a queen is so old as to require superseding, and that supersedure occurs about swarming-time under prosperous conditions, there is likely to be swarming, whereas there might have been no swarming if a young queen had been present that did not need superseding.

I haven't given you, perhaps, a satisfactory answer, but it's the best I can do.

2. Probably just the same as if they had been put in the nucleus before hatching.

3. Four or five frames of brood well covered with bees would be rather a colony than a nucleus. A queen reared therein might be a very good queen, supposing, of course, she was of good parentage, but such a plan of rearing queens would hardly be advisable if many were to be reared, because too expensive. A number of bees may be reared in one colony just as well as to let the colony rear a single cell, and when the cell is near hatching it may just as well be in a nucleus till the queen lays.

You would probably find Doolittle's queen-rearing book a profitable investment.

4. What would be best for one might not be best for another. For some, natural swarming would be best, preventing second swarms by hiving the swarm on the old stand with old colony close beside it, and removing the old colony to a new location a week later. For some the nucleus plan would be best: Start a sufficient number of nuclei, and from time to time give to each nucleus a frame of brood with adhering bees, or brood only, planning to give just enough help to build each nucleus up to good strength for winter.

5. It would probably make a big difference to give a virgin queen 45 days before the flow—so great a difference that you would not be likely to try it a second time. The harvest with you is likely to begin somewhere about June 10. Forty-five days before that time would be in the latter part of April. As far north as northern Illinois you will hardly succeed in rearing good queens by that time. That is objection enough of itself. To put a virgin queen in a colony April 25th would stop the laying and brood-rearing at a time when it is important to have it pusht to the ability of the colony. That is also a sufficient reason of itself. Neither would it be wise to think of giving a young laying queen in April. It would make chances for swarming somewhat less, but not enough less to overbalance the disadvantage.

Out-Apiary and Swarming—Feeding for Winter.

1. How could an out-apiary be managed where daily attention could not be given to it, mainly the swarming question, possibly 25 or 30 colonies, in a fine honey locality? Would the bee-entrance guard on each hive prevent swarming? What would be the result if they did swarm, and were lost, as long as the remainder did well?

2. What would be a fair share (of honey) to give to a person for allowing me to place 10 or 12 colonies on his farm, everything to be furnisht by me, he only to see to the shade-boards, etc., as he does not understand hiving swarms or bees at all?

3. What is the best time for feeding sugar syrup, for

winter use? and how can you feed thru the winter in case of necessity? Some time since one colony starved to death for lack of food, not knowing how to feed syrup, but instead I placed super with comb honey on the hive, but it seemed to do no good. They were on the summer stands.

4. Can you name one or two good feeders, and tell how to use them?

5. Can extracting be done thru the winter as well as in the honey season? In fixing frames for extracting, would medium (full sheets) brood foundations be right? and should they be wired in?

In my short experience I have found that the bees in hives not shaded, begin work earlier, and also they work later than those that are shaded.

WASHINGTON BEGINNER.

ANSWERS.—1. Bee entrance guards would not in the least prevent swarming. It only prevents the queen from going with the swarm, and without a queen they would not leave. It would be just as well for them to swarm and be lost "as long as the remainder did well," but unfortunately the remainder will not do as well. Entrance guards might be safely used if you could visit the place as often as once a week, for the queens would be held in the traps awaiting your treatment. Perhaps you might be best suited to have such large hives with so much room in the extracting-supers that the amount of swarming need not be considered.

2. That question is not easily answered, but at a guess it might do to give him honey enough for use on his own table. The amount of compensation would not be exactly in proportion to the number of colonies. A man would just about as soon have 10 colonies sitting on his ground as one. In some cases a man might be willing to pay for having bees on his place for the sake of having his fruit fertilized.

3. Just as soon as you are satisfied no more surplus will be stored. In some places—indeed in a good many places—that might be in the last of August. That gives time to have the syrup well ripened and put in proper shape for winter. In any case, try to have all feeding done before September closes.

In case of necessity in winter, use comb honey or sugar candy, making sure that the food is so close to the bees that they will crawl directly upon it. Don't think of feeding syrup in winter.

4. Root's A B C of Bee-Culture gives the Miller feeder first place if the feeding is to be done on top. Put the feeder on top the same as a super; put in syrup and cover over. If the feeding is done early enough, I prefer a plan that is still less trouble. Put dry granulated sugar in the feeder, and then pour hot or cold water on it. The bees will do the rest. If you prefer to feed at the hive-entrance, the Boardman feeder is one of the best.

5. It is just as easy to extract in winter as in summer, *if* the combs are just as warm. If kept in a very warm room for 24 hours, you will likely be able to extract. If you can hang them overhead in the kitchen they will stand a good chance for heat.

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The Afterthought.

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Richards, Ohio.

WEIGHT OF NATURAL COMB.

Average weight of natural comb 10 grains to the square inch, Prof. Gillette, page 23. If we call the Langstroth frame 144 inches (usually less from being nibbled away at the bottom) the weight of the wax in a comb will be 1,440 grains, or 14,400 grains in a 10-frame hive. Now, if we assume that the 400 grains will cover the extraneous matter workt into the new comb of a hive, we have just an even two pounds of actual wax. Practically, I think they usually work in a good deal more extraneous matter than that; but on the other hand, next to the bars all around there is much more wax than 10 grains to the inch. So a fair estimate of the actual wax in a hive, providing it all could be recovered, is two pounds for 10-frame hives, and one pound 9½ ounces, nearly, for the more common 8-frame hives.

MAKING ROOM FOR WAX-SCALES.

And so D. H. Coggshall thinks that it pays to cut slices from the combs at extracting-time to give the bees place to use their scales of wax *without building burrs*. I think he has a valuable idea—that is, valuable in long, strong runs of honey. When the combs are scant thickness, or not built down at the bottom, or when the honey-flow is short, then the cutting would be rather a waste. Page 24.

FANNING AT THE HIVE-ENTRANCE.

I think Dr. Miller, on page 25, does a pretty good job at theorizing. A bee uncertain about its reception by the guards at a hive-entrance falls to fanning at once—plain way of saying, "Don't you see, I am ready to go to work? and robbers do not work." Guess it's right. Still, let a fourth swarm come out and leave the parent hive nearly empty and pretty well demoralized as to guards; let the swarm hang an hour, till said hive gets cold—colder than it needs to be; then hive the swarm and carry it away, leaving say 50 obstinate bees determined not to leave the limb. In the course of the day it will dawn upon them what fools they are, and they will return to the alighting-board. I should expect to see them fanning together there the first thing they do. In this case there can hardly be fear, or uncertainty, and there is no need of the fanning being done—what is it? Fanning in the entrance draws outside the familiar smell of home. Perhaps that is what they want—before they have submitted to the inevitable quite enough to go in.

DOUBLE WALLS AND CHAFF ON A HOT DAY.

Mr. J. M. Rankin has got on track of a question that is of value—the actual effect of double walls and chaff on a hot day as compared with plain, single-walled hives. Thinks the working-force for a time mostly abandoned the supers of the single-walled hives. This is one of the things we want to be sure of before we are too sure of it, so repeated observations by different observers are desirable. For future comparisons Mr. R. should have given us the temperature in the shade in addition to that in the sun. Page 39.

COMB BUILT BETWEEN FINISHT COMBS.

Dr. Miller is right in his answer to "South Carolina," on page 43, that a comb built between two finisht combs in a super is apt to be very thin. Even if so much extra space is given as to obviate that trouble the alternation doesn't seem to be a good plan. Put one first-rate, finisht comb next one side of the super, then several frames with starters, then one or more partly built combs if you have them, as I mostly do; then fill the rest of the super with finisht combs. That seems to be the "how" to do it, providing you don't want the bother of having them built below.

Queenie Jeanette is the title of a pretty song in sheet-music size, written by J. C. Wallenmeyer, a musical bee keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once, if you want a copy of this song.

GENERAL ITEMS

Feeding Bees for Winter.

Our bees went into winter quarters in debt to us. We had to feed about two-thirds of the colonies late in the fall, and unite many weak ones. If we had not fed they would have had very little honey to winter on. A friend about 30 miles from here fed his bees in November to keep them from starving.

We took only about 300 pounds from 140 colonies. We united some in the fall so now we have only 98, but as their fall honey was gathered from decaying fruits, etc., I fear they will not winter as well as they usually do. I am sure they winter better on sugar syrup if fed early and well sealed, than they will on such honey as they gathered last fall.

It has been so dry for the past few years that many bees in this locality have died. Some years our crop has been cut short by people spraying fruit-trees while in bloom.

MRS. L. C. AXTELL.

Warren Co., Ills., Jan. 21.

Something About Bumble-Bees.

On page 44 I notice a letter written by S. T. Pettit, in regard to bumble-bees in winter. I presume the majority of people think they winter here, but I think differently. I will be 67 years old in three more days if I live so long; I was raised on a farm and still live on one, but I have never been able to find a nest of bumble-bees in winter. When the fall of the year comes, and the weather begins to get cool, I have seen them disband and leave their summer nests. I don't know where they go, but I think the queen goes South. My reason for thinking this is that I have never seen a bumble-bee in the spring until the weather had become quite warm, and the flowers had begun to bloom. The queen starts her nest and increases very fast. If they stayed here all winter I should think they would come out as soon as the weather began to get warm, as do the honey-bees, green flies, and other insects.

There are three sizes of bumble-bees —queens, workers, and drones. The drones have very long bodies and are

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Queen-Rearing in France, —by— Giraud-Pabou	314 queens from one hive. How it was done. Illustrated by 3 half-tone engravings.
Candied vs. Bottled Liquid Honey, by Chalon Fowls	Figuring up the profits on bottled honey. Illustrated.
Wintering Bees in Clamps, (From Bee-Keepers' Review) —by— W. Z. Hutchinson	Four illustrations. No one is better qualified perhaps than Mr. Hutchinson to write on this subject. His many years' experience wintering bees in Michigan should give weight to his opinion.
Conversations —with— Doolittle	Those who have read bee-literature for years always find Doolittle's writings full of practical information. Those who are not familiar with his writings are invited to read a series of practical articles on general topics relating to bee-culture under the title, "Conversations with Doolittle."

Gleanings for Jan. 15th.

Co-Operative Organized Work, by R. C. Aikin	Its benefits demonstrated; The Colorado Honey-Producers' Association an information scheme; The work of the Association outlined.
An Extracting Outfit, by W. A. Gilstrap	Illustrated.
Mintle's Lightning Section-Folder	Illustrated.
Stray Straws, —by— Dr. C. C. Miller, Every Issue	These "Straws" appear in every issue of Gleanings, constituting one of its most valuable features. Dr. Miller reviews nearly all of the bee-journals publisht, American and Foreign, and readers of Gleanings get the benefit in these "Straws," thereby receiving much valuable information publisht in the Foreign journals.
Pickings from Our Neighboring Fields, by Stenog, Every Issue	For several years Gleanings readers have been privileged twice a month to enjoy short squibs from this writer's pen. Not only does he give us articles full of value gleaned from other journals, but they are so enlivened by his vein of humor that they are eagerly read by all.

Gleanings for Feb. 1st.

Our Honey-Bottling Symposium, Fully Illustrated, by G. A. Deadman, Earl C. Walker, and Walter S. Pouder	How to wash bottles; Filling with hot honey or cold; Bottles with corks or self-sealing tops; Temperature of honey to be bottled. The right kind of honey for the purpose; Mixing honeys to secure a flavor; Why honey should be heated in the bottles. Size and construction of vats for heating the bottles of honey; Tumblers vs. jars or bottles.
The Personnel of the Utter Trial by E. R. Root	A full review of this celebrated case of Utter vs. Utter, or Bees vs. Peaches.
The Belgian-Hare Business, by W. K. Morrison, of Devonshire, Bermuda	A fair statement; Extravagant statements; Bees and rabbits not a good combination.
Co-operative Organization, by R. C. Aikin	Plans outlined; Intelligence bureau; Why simple co-operation fails; Business must be at the bottom; Government's duty; A continuation of this writer's article which appeared in Jan. 15th Gleanings.
Cuba, by The American Tramp	This writer has been in Cuba some two years, and writes understandingly.

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Cuba, by Harry Howe, Robert Luaces, and A. L. Boyden	Mr. Howe was formerly with Coggshall, of New York, and has already given Gleanings readers glimpses of Cuban bee-keeping. Mr. Luaces, of Puerto Principe, considers that conditions are not well known and gives information somewhat different from other writers. Mr. Boyden begins a series of articles entitled, "Glimpses of Cuba and Cuban Bee-Keeping," illustrated by photos taken by himself.

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quite yellow, being markt better than most of the Italians in this country. The workers are smaller and darker, and are great fighters; I don't know whether the queens fight or not, but I think they do. The whole colony works for a living—the drones as well as the rest. I do not know that they carry in any stores, but I have seen them working on thistles. Like the honey-bee drones they have no sting. I have heard of boys catching them and sucking the honey out of them, but I have never tried it.

Twice in my life I have found a single bumble-bee three or four inches down in the ground, under leaves or trash, but I don't believe it would have come out the next spring alive unless there had been a great deal of salt put on it, and maybe not then.

The hornets also go South, or else they all die, and a new queen comes from the South. They don't make their appearance here until about June, then one starts a nest and keeps building up until fall, just as the bumble-bees do, then they all die or disappear.

The past season was the poorest we have had in 30 years. I have been in the bee-business for nearly that length of time, but have never seen anything like it. There was a pretty fair growth of white clover but it secreted no nectar. I don't think there was a pound of surplus honey gathered in this neighborhood. We have had no honey worth mentioning in the last four years, but we still live in hopes, tho it seems a long time coming.

THOMAS WALLACE.

Adams Co., Ill., Jan. 22.

Poor Prospects for Next Season.

The prospects for a good honey season in this locality are away below par again, I am sorry to say. We have had only two fairly good rains thus far this winter, and there is a deficiency of over two inches of normal precipitation, which means a good deal in this land of "excess of sunshine."

Since reading of the Bee Journal's loss by fire I take pleasure in forwarding my dollar for renewal subscription, and hope all bee-keepers will be prompt in coming to the assistance of the journal which is devoted solely to their interests. The three successive poor honey seasons here have made it seem best for me to drop three other bee-papers, but I must retain at least one to keep in touch with the bee-keeping world. F. C. WIGGINS.

San Diego Co., Calif., Jan. 19.

Handled Bees 50 Years—Rearing Queens.

I am 62 years of age and have handled bees for the past 50 years. I lived in Royalton, Vt., until 13 years ago, when I came to Florida. I commenced using the Langstroth hives and frames in 1865. In 1867 I bought 10 colonies of Italian bees bred from imported queens. During the past two years I have introduced about 400 queens very successfully. For the 10 years that I have kept bees in Florida I have averaged 100 pounds of extracted honey to the colony, and increast from 12 to 400 colonies.

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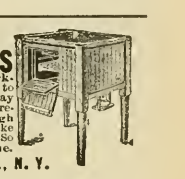

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The Kalamazoo Carriage and Harness Co. of Kalamazoo, Michigan, have adopted the plan of sending their vehicles anywhere, on **10 days free trial.** They sell direct to consumers at wholesale prices and allow you to take the vehicle from the depot, hitch up to it, try the springs, running qualities, see the trimmings, finish and style before you decide to keep it. No more buying "a cat in the bag, sight unseen." They know the quality of their goods and are willing to let them sell on their merits. Write for free catalogue.

KALAMAZOO CARRIAGE AND HARNESS CO.,
Box 53 Kalamazoo, Michigan.

Maule's *(35 new things for 1901)*
Seed Catalogue

You should, by all means, have this **most modern catalogue of modern times.** It is brimful and overflowing with good things in vegetable, farm and flower seeds, flowering plants, fruits, bulbs, etc. **It contains 35 novelties in vegetables and flowers never offered before,** has 136 large pages, seven handsome colored plates and hundreds of illustrations. It gives practical, up-to-date cultural directions and offers many cash prizes. The first edition alone costs over $30,000, so while we send it free to all customers, we must ask others to send 10 cents for it, which amount they may deduct from their first order. You will make a mistake if you do not write to-day for this the Novelty Seed Book of the year. Address,

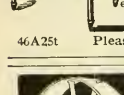
WM. HENRY MAULE. Philadelphia.

3D4t Please mention the Bee Journal.

50 VARIETIES.

I breed fine poultry on one of the best equipped poultry farms in the world. Send 8c in stamps for new 1901 Book, telling all about 50 varieties, with special prices on fowls and eggs.

B. H. CREIDER, Florin, Pa.



200-Egg Incubator for $12.00

Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.

GEO. H. STAHL, Quincy, Ill.

46A25t Please mention the Bee Journal.

of the Bee Journal correspondents, but I seem to be as successful with them as the average.

I have taken quite an interest in the different methods of rearing queens, and of introducing them; also caging and sending thru the mails. I have read many of the bee books and papers, and until recently never read any objection to rearing queens on dry sticks, caging them when full of eggs. Some think that a strong colony in the hight of the honey-flow is about as good a time to rear a prolific queen as any. H. T. GIFFORD.

Brevard Co., Fla., Jan. 19.

Nothing but Fall Honey.

Bees did not do much the past season. There was a great deal of white clover, but no honey in it to speak of. We had nothing but fall honey, and very little of that. WM. WILSON.

St. Joseph Co., Mich., Jan. 25.

Light Honey-Flow—Feeding Bees.

The past year was a hard one on bee-keepers in this locality. From June 1st the bees did not get a living from the flowers until about the first of September, when the asters yielded

BIG MONEY IN POULTRY

Our LARGE POULTRY GUIDE explains all. **Worth $25 to anyone.** The largest, finest and most complete book ever published. Colored plates, over 175 new illustrations, hundreds of valuable recipes and plans and **HOW TO MAKE POULTRY PAY.** Sent postpaid for 15 cents.

JOHN BAUSCHER, JR., Box 94, Freeport, Ill.

Please mention Bee Journal when writing.

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Direct to Consumers.

Our Handsome Catalog Free, containing over $2 each, contains 144 pages, with 1500 illustrations and 15,000 articles listed, on which we guarantee to save you from 15 to 75%. Most complete book of its kind. Sent for 10c to pay cost of mailing, which will be refunded with first order. Valuable book of reference and ought to be in every household. Get it; keep it handy.

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"The Only Mail Order Drug House in the World."

6A13t Please mention the Bee Journal.

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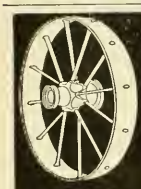
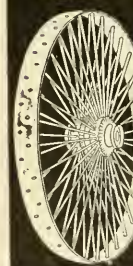
Root's Goods at Root's Prices

POUDER'S HONEY-JARS and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. **WALTER S. POUDER,**
512 Mass. Ave., INDIANAPOLIS, IND.

Please mention Bee Journal when writing.





"ELECTRIC" GOODS

Thousands of farmers all over the country know that the name "Electric" stands for the highest quality, the greatest durability, the lowest price. Everything put out of our factory carries the reputation of being *"as good as money can buy."*

Electric Metal Wheels

of all sizes and varieties, to fit any axle on any vehicle or farm implement, either direct or staggered oval steel spokes.

Electric Handy Wagon,

the neatest, strongest, most durable, easiest to load wagon made. Metal wheels, any width of tire, any height from 24 to 56 inches. Best angle steel hounds.

Tanks of All Kinds.

Sheep Dipping Tanks, Watering Tanks and Feed Troughs of all shapes and sizes.

Trucks

for engines, water tanks, etc. Send for new catalog. We ship our goods anywhere and guarantee to save you money.

ELECTRIC WHEEL COMPANY,
Box 16, QUINCY, ILLS.

some nectar. Some colonies had plenty for winter, but others did not, and I began in August to feed them about 800 pounds of good honey, in order to keep them from starving and get them in good condition for winter. They are wintering splendidly so far, and I hope the coming season will be a good one.

To-day is the worst day we have had so far this winter. It is snowing and blowing, and cold. I hope it will not last long. A. J. McBRIDE.

Watauga Co., N. C., Jan. 24.

Good Honey-Crop—Introducing Queens.

My honey crop for the year 1900 was 4,500 pounds from 45 colonies, spring count, a little over one-third of which was comb honey. My average yield for 11 years has been 60 pounds per colony, about one-half of it being comb. The best yield was in 1893, when I got 114 pounds per colony, and the poorest yield was in 1899—16 pounds per colony.

Perhaps the method I use for introducing queens will be helpful to some. When I receive a queen thru the mails I put her in a Miller introducing-cage without any of the escort bees, put in some candy, and plug the hole so the workers can not get at the candy. Remove the queen that is to be superseded, and place the cage containing the queen between two of the central combs. The next day open the hive quietly, and if the bees seem friendly to the queen remove the plug, fill the hole with candy, replace the cage, and do not open the hive again for nearly a week. I have had but one failnre in five years, in using this method. I formerly lost 25 percent of my queens by following the directions that came with the queens.

I believe many of the failnres in introducing are caused by the escort bees being left with the queen. If the bees appear angry do not remove the plug the next day, but wait until they are friendly toward the queen.

The American Bee Journal is all right. D. I. WAGAR.

Wayne Co., Mich., Jan. 23.

Convention Notice.

California.—The annual convention of the California State Bee-Keepers' Association, will be held in the Chamber of Commerce, at Los Angeles, Feb. 25 and 26, 1901, beginning at 1:30 p.m., on the 25th. Several valuable papers have been promist, and we expect an interesting convention. J. F. McINTYRE, Sec.

R. WILKIN, Pres.

The Kalamazoo Carriage and Harness Company's advertisement appears in this issue, making an offer which may truly be characterized as "extraordinary." They offer to send to any reader of this paper any vehicle in their factory on 10 days' free trial, allowing you to use it during that time and thoroly test it before deciding to keep it. They certainly have unbounded faith in the quality of their goods, or they could not make such an offer. Look up their advertisement and send for Catalog, not forgetting to mention the American Bee Journal when writing.

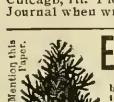
Great Book About a Great Machine.—The new Cyphers Incubator Catalog is without exception the handsomest and most complete book ever issued in the interest of the poultry industry. It contains 224 pages (8x11 inches) with more than 200 new illustrations representing the highest art of the engraver; the cover is a symphony of delicate gray tints with just a dash of red, and the text is devoted to sensible, practical poultry talk which every poultry-raiser ought to read. It is an extremely beautiful book and as useful and practical as it's handsome.

The Cyphers Incubator during the four years that it has been on the market, has gained a popularity and achieved a success which is nothing less than phenomenal. And yet, its success is not hard to explain. The American poultry-raisers recognized in the Cyphers the first incubators really built on a scientific plan—a plan which follows nature's method in the diffusion of heat and the retention of the moisture of the egg, and they have found by experience that it is the only incubator which has successfully solved "the moisture question" and "ventilation question"—being absolutely self-regulating in regard to heat, moisture and ventilation. Without question these two great features: self-supplied moisture and self-ventilation, were the original discoveries of Mr. Cyphers, and were brought to a practical working success by him.

The Cyphers Company puts out with every machine they sell one of the strongest guarantees we have ever seen on any machine of any kind. And the beauty of it is every poultryman in America can rest assured that it means EXACTLY WHAT IT SAYS.

We know that every one of our readers will be interested in this magnificent catalog. Send 10 cents to pay postage, and ask for Book 50. Address Cyphers Incubator Company, Wayland, N. Y., Boston, Mass., New York City, or Chicago, Ill. Please mention the American Bee Journal when writing.

Mention this Paper.



EVERGREENS

Hardy sorts, Nursery grown for windbreaks, ornament and hedges. Prepaid $1 to $10 per 100. 50 Great Bargains to select from. Write at once for free Catalogue and Bargain Sheet. Local Agents wanted.

D. Hill, Evergreen Specialist, Dundee, Ill.

Please mention Bee Journal when writing.

1901—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog.

M. H. HUNT & SON, Bell Branch, Wayne Co., Mich.

Please mention Bee Journal when writing.

Wanted! Two or three apiaries for cash, located in Colorado. Give full particulars in first letter, and lowest cash price; comb honey preferred.

1Atf THOS. C. STANLEY & SON, Fairfield, Ill.

BEE HIVES, SECTIONS AND ALL BEE-KEEPERS' SUPPLIES.

Big Catalog Free. Write now. Leahy Mfg. Co., 2415 Alta Sita, E. St. Louis, Ill.

6Atf Mention the American Bee Journal.

Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application. BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

Please mention Bee Journal when writing.

CAREER AND CHARACTER OF ABRAHAM LINCOLN.

An address by Joseph Choate, Ambassador to Great Britain, on the career and character of Abraham Lincoln—his early life—his struggles with the world—his character as developt in the later years of his life and his administration, which placed his name so high on the world's roll of honor and fame, has been publisht by the Chicago, Milwaukee & St. Paul Railway, and may be had by sending six (6) cents in postage to F. A. Miller, General Passenger Agent, Chicago, Ill. 6A3t

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Jan. 19.—Honey is selling slowly; this applies to all grades with the exception of white clover and basswood comb honey, which sells readily at 16c providing it grades No. 1 or better. All other kinds of white comb honey sell at from 14@15c, and candied white comb at from 8@10c; travel-stained and off-grades of comb, 13@14c; amber, 12@13c; amber extracted, 7@7½c; dark and buckwheat comb honey, 9@10c. Extracted, white, 7c, 7½@8c; basswood and white clover bringing the outside prices; buckwheat and other dark grades, 6@6½c. Beeswax, 28c. R. A. BURNETT & Co.

KANSAS CITY, Jan. 22.—Fancy white comb, 15@17c; amber, 13@14c; dark, 9@11c; demand good. Extracted, 7@9c; demand quiet. Beeswax, 20@30c.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

BUFFALO, Jan. 17.—All kinds of boney are so quiet it is difficult to make a sale. Occasionally some sells, fancy 14@15c; few, 16c; choice and No. 1, 12@13c; few, 14c; but dark, 9@10c, and all kinds in liberal supply; some may have to be reconsigned. Extracted, 7@8c, and not wanted in Buffalo. Beeswax, 22@27.

BATTERSON & Co.

ALBANY, N. Y., Jan. 18.—Honey market is dull on all grades now, with light stock and light demand. White comb in good condition, not candied, 15@16c; mixt, 13@14c; buckwheat, 12@12½c; mixt, 11@11½c. Extracted, white, 8@8¼c; mixt, 6@6¼c; dark, 5½c.

H. R. WRIGHT.

BOSTON, Feb. 8.—Fancy No. 1 white in cartons, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. Absolutely no call for dark honey this year. Extracted, white, 8@8½c; light amber, 7½@8c. Beeswax, 27c.

BLAKE, SCOTT & LEE.

CINCINNATI, Jan. 16.—Market very quiet. No change in prices. Fancy white comb sells for 16c. Extracted, dark, sells for 5½c, and better grades bring 6½@7½c. Fancy white table honey brings from 8½@9c. C. H. W. WEBER.

NEW YORK, Dec. 22.—Fancy white, 15@16c; No. 1 white, 14c; No. 2 white 12@13c; amber, 12c; buckwheat, 10@11c. Extracted in fairly good demand at 7½@8c for white, and 7c for amber; off grades and Southern in barrels at from 65@75c per gallon, according to quality. Not much demand for extracted buckwheat as yet. Some little selling at 5¼@6c. Beeswax firm at 28 cents.

Demand continues good for comb honey; supply fairly good. Extracted in fair demand with enough supply to meet requirements.

HILDRETH & SEGELKEN.

DETROIT, Jan. 19—Fancy white comb, 15@16c; No. 1, 13@14c; dark and amber, 12@13c Extracted, white, 7@7½c; amber and dark, 6@6½c. Beeswax, 26@27c. M. H. HUNT & SON.

SAN FRANCISCO, Jan. 9.—White comb 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7¼@8c; light amber, 6¾@7¼c; amber, 5¾@6¾c. Beeswax, 26@28c.

Stocks of all descriptions are light, and values are being as a rule well maintained at the quoted range. Firmness is naturally most pronounced on light amber and water white honey, the latter being in very scanty supply.

HONEY MARKET.—We may have a customer within a short distance of you who wants your honey or beeswax. We are in close touch with all the markets; therefore write us regarding your crop, stating quantity, quality, and lowest cash price. References—Either Bank here for any business man in this city.

THOS. C. STANLEY & SON, Fairfield, Ill.

—DO YOU WANT A—

High Grade of Italian Queens

OR A CHOICE STRAWBERRY?

Send for descriptive price-list.

D. J. BLOCHER, Pearl City, Ill.

47A26t Mention the American Bee Journal.

For Sale Extracted Honey from Alfalfa—60-pound cans at 7c; and smaller cans.

5A4t D. S. JENKINS, LAS AMINAS, COL.

Please mention Bee Journal when writing.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

Please mention Bee Journal when writing.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	60c	$1.00	$2.25	$4.00
Sweet Clover (yellow)	$1.50	2.80	6.25	12.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	90c	1.70	3.75	7.00
White Clover	90c	1.70	3.75	6.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to

Prof. A. J. Cook, Claremont, Cal.,

FOR HIS

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Publisht weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,
330 Market Street, - SAN FRANCISCO, CAL.

Low Rates West and Northwest.

On Feb. 12th, and on each Tuesday until April 30th, the Chicago, Milwaukee & St. Paul Railway will sell one-way second-class tickets at the following very low rates:

To Montana points, . . . $25.00
To Nor. Pacific Coast points, 30.00
To California, ... 30.00

These tickets will be good on all trains, and purchasers will have choice of 6 routes and 8 trains via St. Paul, and 2 routes and 3 trains via Missouri River each Tuesday. The route of the Famous Pioneer Limited trains and the U. S. Government Fast Mail trains.

All ticket Agents sell tickets via the Chicago, Milwaukee & St. Paul Railway, or for further information address F. A. Miller, General Passenger Agent, Old Colony Building, Chicago. 6A3t

24th Year **Dadant's Foundation.** 24th Year

We guarantee satisfaction.

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED-PROCESS SHEETING.

Why does it sell so well?

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

LANGSTROTH on the HONEY-BEE—Revised
The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

326 FIRST PREMIUMS SEND FOR FREE CATALOGUE.
Prairie State Incubator Co.,
Homer City, Pa.

47A17t Please mention the Bee Journal

BEES QUEENS
Smokers, Sections, Comb Foundation and all Apiarian Supplies cheap. Send for FREE Catalogue.
E. T. FLANAGAN, Belleville, Ill.

Tennessee Queens!

Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3½ miles apart, and mated to select drones, $1.50 each; untested warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and but few within 5 miles. 28 years' experience. Discount on large orders. Contracts with dealers a specialty. JOHN M. DAVIS,
6A2ot Spring Hill, Tenn.

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We are distributors for ROOT'S GOODS AT THEIR PRICES for southern Ohio, Indiana, Illinois, West Virginia, Kentucky, and the South.

MUTH'S SQUARE GLASS HONEY-JARS, LANGSTROTH BEE-HIVES, ETC.

Lowest Freight Rates in the country. Send for Catalog.

C. H. W. WEBER,
Successor to C. F. MUTH & SON,
2146-48 Central Ave., CINCINNATI, O.
Please mention Bee Journal when writing

The Emerson Binder.

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL.

Fred W. Muth & Co.

FRED W. MUTH. CHARLES J. HAUCK.
P. W. J. HAUCK.

One Minute, Please!

We beg to announce that we have gone into the bee-supply and honey business.

Being **practical bee-keepers who understand the supply business thoroly**, and know pretty well the wants of the bee-keepers, the firm will give its exclusive attention to the bee-supply business and the promotion of the sale of honey in this vicinity.

After visiting all the important manufacturers, we have selected a line that will give the best of satisfaction. Our location — adjoining the Suspension Bridge—is most central, and being only four blocks south from the Fountain Square, is right down in the business part of the city, and especially handy for our Kentucky friends; our facilities for prompt service are perfect; and our prices are consistent with good business judgment. Our CATALOG has many new features. Send us your name so we can mail you one.

FRED W. MUTH & CO.
Southwest Cor. Front and Walnut Sts.,
CINCINNATI, OHIO.

5Atf Please mention the Bee Journal.

Bee-Hives and Honey-Boxes

in car lots, wholesale or retail. Now is the time to get prices. We are the people who manufacture strictly first-class goods and sell them at prices that defy competition. Write us to-day.

Inter-State Box and Manufacturing Company,
47Atf HUDSON, WIS.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., FEBRUARY 21, 1901.

FORTY-FIRST YEAR
No. 8.

WEEKLY

HON. A. H. JONES,
Pure Food Commissioner of Illinois.

THE AMERICAN BEE JOURNAL

PUBLISHT WEEKLY BY

GEORGE W. YORK & Co.

144 & 146 Erie St., Chicago, Ill.

Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

IMPORTANT NOTICES:

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Advertising Rates will be given upon application.

Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philolog cal Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Bee-Keeper's Guide

Or, Manual of the Apiary,

—BY—

PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book publisht to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipt, or his library complete, without THE BEE-KEEPERS' GUIDE.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

Given for TWO New Subscribers.

The following offer is made to PRESENT subscribers only, and no premium is also given to the two NEW subscribers—simply the Bee Journal for one year:

Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let every body try for it. Will YOU have one?

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

THE BEST WHITE

ALFALFA OR BASSWOOD

Extracted Honey

ALL IN 60-POUND TIN CANS.

ALFALFA HONEY.....

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.

BASSWOOD HONEY.....

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms in Wisconsin. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

We have a good stock of the fine WHITE ALFALFA and WHITE BASSWOOD EXTRACTED HONEY that we can ship by return freight. Most bee-keepers must have sold all their last year's crop long before now, and will be ready to get more with which to supply their customers. All who have had any acquaintance with the above-named honeys know how good they are. Why not order at once, and keep your trade supplied?

Prices of Either Alfalfa or Basswood Honey:
(For the purpose of selling again.)

A sample of either, by mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. The cans are boxt. This is all

Absolutely Pure Bees' Honey,

The finest of their kinds produced in this country.

Read Dr. Miller's Testimony on Alfalfa Honey:

I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more markt flavor, according to my taste. C. C. MILLER.
McHenry Co., Ill.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

Address,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

26 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 26 cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., CHICAGO.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., FEBRUARY 21, 1901. No. 8.

Editorial.

Slow Cooling of Beeswax and its effect upon color has attention again in the Bee-Keepers' Review. Editor Hutchinson says:

The American Bee Journal admits that the slow cooling of wax simply allows the dirt to settle, and that is the only way that slow cooling can have any effect upon the color. But it still clings to the idea that the dark color of wax comes from its impurities. Here is where our old friend is making its mistake. The color is in the *wax itself*. Dark wax will remain dark, no matter how slowly it is cooled; yellow wax will be yellow altho so full of dirt that the particles can be seen. Any one who cares enough about this can easily satisfy himself. Let him get a cake of dark, black wax, melt it and keep it in a vessel surrounded by sawdust, so as to confine the heat, and cause it to cool very slowly. When cool it may have a *cleaner* look, the dirt having settled to the bottom, but it will still be *dark*. If you doubt it, just try it.

Next, take a cake of the brightest yellow wax, melt it, and stir into it a lot of the refuse, or shumgum, or dirt, scraped from the bottoms of other cakes of wax; mix these in well, then cool it just as quickly as you possibly can. The *wax* will still be *yellow*, but full of foreign matter. Again I say, if you doubt this, try the experiment.

All of which goes to show that there is no particle of difference in actual belief on either side. Our good friend of the Review wants us to say that different samples of beeswax have different colors independently of the amount or kind of dirt in them, so that there may be a very dark color in wax that does not come from impurities. If Mr. Hutchinson will turn back to the first number of this journal for this year, he will find on page 4 this sentence: "There is no desire whatever to deny that two specimens of wax entirely free from impurities may be very different in color." If he had kept in mind that sentence, he would hardly have said, "But it still clings to the idea that the dark color of wax comes from its impurities," for that conveys the idea that all dark color comes from impurities. There is no real difference as to belief at that point.

Let us get right down to where the point of divergence comes. Take Mr. Hutchinson's last illustration—some bright yellow wax melted with a lot of dirt stirred in and suddenly cooled. To make the illustration clearer, suppose a lot of lampblack is stirred into the wax. We both believe exactly the same thing about it. We both believe that the wax that is in the cake, separated from the foreign particles, is bright yellow, and that altho no yellow color appears to the eye, the black color is entirely due to the lampblack that is there. When askt, "What is the color of that cake of wax?" he says, "Yellow;" we say, "Black." Of course, he may say that it isn't the wax that is black, but the lampblack. But we believe our answer is more in accordance with the every-day talk of people. Put the cake of wax before a witness in court and ask him its color. He looks at it on the outside, and then breaks it in two, and he testifies that it is black outside and in. Take a white handkerchief and rub soot all over it. Mr. Hutchinson would say, "The handkerchief is white. The soot only is black." Common people would say, "The handkerchief is black."

If Mr. Hutchinson should contract for a lot of bright yellow wax, and when it arrived he should find it one-fourth dirt, he would hardly feel satisfied if the consignor should say, "That's bright yellow wax, just what I contracted to send you;" neither will he be satisfied if he is told that a fourth will be deducted for the weight of the dirt.

Referring to the issue of this journal for Jan 17th, the American Bee-Keeper says:

"Editor York now asserts that his 'journal has never pretended to claim for slow cooling anything more than that it allowed the foreign particles time to settle.'"

We do not believe that Editor Hill is a man who would intentionally misrepresent, but that statement, "now asserts," might be understood to mean that some change had been wrought in the views or the statements of this journal. So far from that being the case, it is true that precisely the same assertion was distinctly made in this journal the first time any editorial belief on the subject was given, as Editor Hill will see if he turns to the issue for Nov. 29th.

Mr. Hill then asks, "Why, then, has the Journal so emphatically opposed our assertion that slow cooling has nothing to do with rendering dark wax a bright yellow?" Simply because the assertion is not believed to be true.

Let us see if we can express, in as few words as may be, just what we do believe. The most of the wax in this country is of a bright yellow if properly cleansed, but when rapidly cooled, as is likely to be the case with the inexperienced, it has mixt in it more or less foreign particles that give it a dull or dirty color. If allowed a long time in cooling, it will be kept a long time in that liquid state suitable for the settling of the foreign particles, and thus the dirty-looking wax will become bright yellow.

A Michigan Foul Brood Law.—Another attempt is now being made in the Michigan legislature to secure the passage of a law providing for the appointment of a bee-inspector for that State. Editor Hutchinson, in the January Bee-Keepers' Review, had this to say about it:

Once more have the bee-keepers of Michigan, in convention assembled, appointed a committee to labor for the passage of a needed foul-brood law—a law that will empower the governor to appoint an inspector who has been recommended by the State Bee-Keepers' Association, and who will have authority to destroy foul-broody colonies when the owner can not or will not properly treat them. There is also to be remuneration for colonies that are destroyed, the same as the owners of cattle diseased with tuberculosis are reimburst for their property when it is destroyed for the general good. A resolution was also unanimously carried recommending the passage of the law, and this resolution will be read before both houses of the legislature.

There was an attempt, two years ago, to pass a similar law, but it failed, principally because of the apathy of bee-keepers. I am informed that only 20 letters were received by members asking them to vote for the measure. The simple introduction of a bill will not secure its passage; the members must be *urged* to vote for it, and *good reasons* must be given, showing why the measure is needed. It must be remembered that the majority of people know very little about bees or bee-keeping, and the members of the legislature must have explained to them the contagious character of foul brood, how it spreads from hive to hive, and from apiary to apiary, and from county to county, and that it is impossible to prevent this spreading until there is some one in authority to *compel* careless, ignorant or willful bee-keepers to rid their apiaries of the disease.

Members should also have their attention called to the value of the bees to the fruit-grower and horticulturist by their work in fertilizing the blossoms. The loss to the country from this source would be even greater than the loss to bee-keepers. If bee-keepers will only wake up and do their duty in this matter, the bill can be past. There are hundreds of bee-keepers in this State, and yet only 20 of them had sufficient interest in this matter to write to their representative and ask him to vote for this measure, giving the reasons why the law is needed. If there is no foul brood in your apiary, it may be in your neighborhood, nearer than you think. You little know how soon you may need help.

In order that the bee-keepers of Michigan, who should be more interested in this matter, may know just who are the members of their State legislature, we append a list herewith. When writing your senator, address him, "Senate Chamber, Lansing, Mich.;" address your representative, "Representative Hall, Lansing, Mich." Do this at once, and besides giving reasons why the law should be past, let him know that you fully expect him to use his influence and vote in favor of it.

LIST OF SENATORS.

Name	*Residence*
Arthur L. Holmes	Detroit
James O. Murfin	Detroit
Horatio S. Earle	Detroit
Solon Goodell	Canton
James W. Helme, Jr.	Adrian

William H. Lockerby	Quincy
Frederick F. Sovereign	Three Oaks
James W. Humphrey	Wayland
Arthur D. Bangham	Homer
Hugo Charles Loeser	Jackson
George W. Moore	Port Huron
Jerome W. Nims	Romeo
William S. Pierson	Flint
John Robson	Lansing
Anthony B. Schumaker	Grand Ledge
Robert B. Loomis	Grand Rapids
Augustus W. Weeks	Lowell
George E. Nichols	Ionia
Hiram M. High	Ovid
Albert E. Sleeper	Lexington
Theron W. Atwood	Caro
John Baird	Zilwaukee
William D. Kelley	Muskegon
Frank L. Westover	Bay City
Ellery C. Cannon	Evart
Augustine W. Farr	Onekama
Ambrose E. Palmer	Kalkaska
Alfred J. Dongherty	Clare
Daniel P. McMullen	Cheboygan
Oramel B. Fuller	Ford River
Gad Smith	Marquette
Charles Smith	So. Lake Linden

LIST OF REPRESENTATIVES.

Name	*County or District*
Adams, C. Spencer	Van Buren
Alward, Robert	Ottawa
Ames, Dr. J. W.	Wayne
Balleutine, Silas L.	St. Clair
Barnaby, Horace T. Jr.	Kent
Baumgaertner, Leonard	Saginaw
Baumann, Jacob	Wayne
Bland, Joseph Edward	Wayne
Bolton, Earl B.	Alpena Dist.
Bouser, John E.	Bay
Boyd, William	Calhoun
Branch, Norris H.	Jackson
Burns, David E.	Kent
Bushnell, William B.	Branch
Byrns, Charles J.	Marquette
Campbell, Thomas G.	Midland Dis.
Carton, John J.	Genesee
Chandler, William	Chippewa Dist.
Chapman, Ira G.	Macomb
Colby, Sheridan J.	Wayne
Combs, John H.	Lenawee
Corwin, Alva H.	Osceola Dist
Curtis, William L.	Cheboygan Dist
Dennis, Orville	Wexford Dist
Dingley, Edward N.	Kalamazoo
Dunn, James	St. Clair
Dupont, Charles	Wayne
Doyle, Michael S.	Clinton
Ferry, Dexter M. Jr.	Wayne
Foster, William J	Calhoun
French, Charles B.	Monroe
Gee, James J.	Muskegon
Gillette, Joel H.	Berrien
Goodrich, Lester A.	Hillsdale
Gordon, John R.	Marquette
Hellenbeck, C. A.	Eaton
Handy, Sherman T.	Dickinson Dist
Hardy, Anson R.	Ingham
Harley, Charles J.	Mason
Hastings, Ernest W.	Grand Traverse Dist.
Hemans, Lawton T.	Ingham
Henry, John	Saginaw
Holmes, John W.	Gratiot
Hunt, Fred A.	Wayne
Hurst, William A.	Wayne
Kerr, Angus W.	Houghton
Kidder, Charles B.	Lapeer
Kirk, William	Tuscola
Kanouse, Luther C.	Livingston
Laflamboy, C. H.	Montcalm
Lafler, Warren B.	Monroe
Lane, John	Berrien
Lowrey, Berry J.	Montcalm
Lugers, Luke	Ottawa
Marks, Herman	Wayne
Martindale, Frederick C.	Wayne
Mason, George T.	Shiawassee
McCall, L. H.	Eaton
McCallum, George P.	Delta Dist.
McFarlane, Duncan	Wayne
McKay, William	Tuscola
Mick, John	Ionia
Monroe, James S.	Gogebic Dist.
Moore, Franklin	St. Clair
Murdoch, J. J.	Huron
Murphy, Christopher	Sanilac
Nash, Edward P.	Kent
Neal, Frank S.	Wayne
Nevins, B. A.	Allegan
Osborn, Frank A.	Kalamazoo
Perkins, John J.	Barry
Powell, Herbert E.	Ionia
Randall, E. S.	Oceana
Read, J. Herbert	Manistee
Reed, William A.	Jackson
Rich, Arthur L.	Newaygo
Riegel, John Michael	Bay
Robinson, James L.	Cass
Rodgers, Lincoln	Muskegon
Rulison, George W.	Houghton
Sanderson, Asa T.	Saginaw
Scott, Andrew J.	Saginaw
Seeley, Thaddeus D.	Oakland
Sharpe, Albert E.	Iosco Dist
Spencer, Newton C.	Menominee
Stone, Alvah Gardner	Lenawee
Stumpenhusen, Henry C.	Washtenaw
Totten, William D.	Antrim Dist.
Vandercook, Henry B.	Kent
VanZoeren, Jacob J.	Kent
Wade, Theodosius	Allegan
Walker, Edward A.	Genesee
Ward, Newton O.	Mecosta
Waterbury, I Roy	Oakland
Weter, James E.	Macomb
Wheeler, Charles P.	St. Joseph
Whitaker, Byron C.	Washtenaw
Willis, George W.	Bay
Willis, Mark	Sanilac
Wright, Henry D.	Isabella

Weekly Budget

NOTES ON THE WISCONSIN CONVENTION.—As we promist last week, we will now endeavor to jot down a few notes concerning the recent annual convention of Wisconsin bee-keepers, which was held at Madison, Tuesday and Wednesday, Feb. 5th and 6th.

By previous arrangement, at 3 o'clock Monday afternoon, Editors E. R. Root and W. Z. Hutchinson, with the writer, met and boarded the comfortable Chicago, Milwaukee & St. Paul train at the Union Depot here, and started for Wisconsin's fair capital. We arrived about 8 p.m., and "put up" at that famous farmers' hostelry, known as the "Simon's House." Here is where the bee-keepers and other devotees of rural industries usually stop. And the boarding is good: but the sleeping—well, we have seen downier and sweeter resting-places.

Mr. N. E. France, the energetic and enthusiastic president of the Wisconsin Association, was the first of the clan to meet us in the hotel. He had reserved for the "three editorial boys" a room with two beds. But it was too late for supper at the hotel, so we had to look up a restaurant, and were directed to one which seemed to be patronized by State senators (the legislature being in session), so at least two-thirds of the editors were satisfied! After disposing of three hot oyster stews, the journalistic trio returned to the hotel, where Editor Root began a lengthy nocturnal convention with Mr. France in the waiting-room, while Mr. Hutchinson and this "little editor" went to their third-story room and retired, each taking a bed, and remarking that when Mr. Root came up we'd see which bed-fellow he'd choose. (Mr. Hutchinson "got the mitten" that time, if never before in his life. It's an advantage to be small in size sometimes.)

As we expect to publish a report of the convention—especially the excellent papers read—we will not dwell very much here on the meeting. We do want to say, however, that Mr. France is a splendid presiding officer of a bee-keepers' convention. He keeps things going, and in a very interesting way. As A. I. Root was recently called the "Poobah" of American bee-keepers, Mr. France well deserves to be called the "Poobah" of Wisconsin bee-keepers.

The first, or Tuesday, evening was devoted to a stereopticon lecture by Editors Root and Hutchinson, one manipulating the slides while the other explained the pictures. This was a most successful feature of the program, and one which was thoroly enjoyed by all present.

Editor Hutchinson had previously planned for the taking of a photograph of the "editorial triplets," so on Wednesday morning we three called on one of Madison's best "photogs," and engaged him to do the job. As each of us had on a queen-bee button, he "caught on," and persisted in calling Mr. Hutchinson the "king-bee," presumably on account of his (Mr. H.'s) hight and dignified appearance. We understood afterward that we were also taken for three senators (!) by the lady clerk who entered the order for the sitting. (We all survived, however.)

At 1:15, on Wednesday, Mr. Root and the writer decided to take the train for Watertown, and call on the G. B. Lewis Co. Mr. Hutchinson was to follow on a later train, by another route, and meet us in Milwaukee in the evening, and then all three go on to Chicago.

Neither of us had been to Watertown before. We arrived at 2:30, and immediately went to the office of the G. B. Lewis Co. We found Mr. George C. Lewis, the affable manager, "at home." He is the worthy son of Mr. G. B. Lewis. He gave us a cordial reception, and showed us all over their great factory, where hives, sections, basket boxes, etc., are turned out in any quantity desired. It was both surprising and interesting to see how rapidly the basket boxes are made by machinery in the hands of hustling boys.

About an hour before leaving, Mr. Lewis ordered a two-seated sleigh and a pair of high-stepping black horses, with merry bells, and gave us a ride in the bracing air of Watertown. We saw pretty much the whole town, which covers nine square miles, and has a population of about 10,000 people. It is a delightful place, and if Mr. Lewis is a sample of its inhabitants, it is all right.

Just before taking the sleigh ride, we called on the firm of Woodard & Stone. They are large manufacturing confectioners and bakers, employing from 50 to 75 hands, many of them being girls. They use a great deal of honey in their enormous business, and prefer Wisconsin honey. They list over a dozen things in which they use honey, viz:

Cuban wafers, honey-bar (iced), honey-cake (iced or plain), honey cocoanut-cake (iced), honey flavors (iced or plain), honey fingers (iced or plain), honey cocoanut fingers (iced), honey gems (iced or plain), honey cocoanut gems (iced), honey jumbles, (iced or plain), and honey cocoanut jumbles (iced).

We had the pleasure of meeting Mr. Stone, who was enthusiastic over the use of honey in the preparation of good things to eat that are baked. He is an earnest advocate of pure honey, and will have no adulteration. He knows of no other sweet that can possibly take the place of honey when it comes to keeping a cake or cooky moist and good for a long time.

We saw a number of samples of their honey goods, and all were nice and tempting.

One of the genial employees in the office was very kind in taking Mr. Root and the writer all over the factory, showing the making of candies and baking of crackers, etc. One machine and oven consumes 40 barrels of flour a day, which makes nearly 200 barrels of oyster-crackers.

One of the many things that impresst us, was the happy looking boys and girls that were working there. All seemed to enjoy their work. May be it was because of the sweet business in which they were engaged that day—making candies of various descriptions! Their motto might well be that of the bee-keepers "Our toil doth sweeten others."

As agreed, Mr. Hutchinson joined us in Milwaukee, and we all arrived in Chicago again before 10 p.m. Editors Hutchinson and Root took a late train for Lansing, Mich., expecting on the following day to aid in securing the passage of a foul-brood law in the legislature now in session there.

Well, our Madison-Watertown trip was a very pleasant one, and afforded the writer a much-needed change and rest after a most trying month following the fire on Jan. 1st, and the subsequent moving to a new and improved location, where we will soon be all settled and running as if nothing unusual had happened.

MR. EUGENE SECOR, general manager of the National Bee-Keepers' Association, desires us to make the following statement in these columns:

In my annual report in December, 1900, the financial statement says that Mr. Abbott received $41.25 for expenses in attending the Pure Food Congress. This is a little misleading, and in justice to Mr. Abbott I wish to say that $10 of this amount was subscribed by him toward paying the expenses of attending the Pure Food Congress. Consequently the amount he received for his expenses was only $31.25, which was probably a good deal less than he actually spent. The statement should have shown those items separately, which it failed to do. EUGENE SECOR,
General Manager.

MR. J. M. HAMBAUGH, writing from San Diego Co., Calif., Jan. 27th, said:

"We have been having very seasonable weather so far, and the outlook is superb for another year. A fine rain to-day."

EDITOR WILL WARD MITCHELL seems to be a very busy man, if we may judge from a short editorial paragraph in the Progressive Bee-Keeper. He says that besides his work on that paper, he issues a small weekly, writes for several publications (preparing for the future now), gets out from 50,000 to 100,000 catalogs each year, with job work galore, reads the latest books with Mr. Leahy (who is a delightful critic), acts as secretary in two lodges, superintends a Sunday-school, teaches a class mostly of teachers, and, in fact, is not burdened with idle hours. He hopes soon to catch up with his work, now that his eyes are better.

We wonder that Mr. Mitchell has any eyes left at all. We do not see how he can do anything well when he attempts to do so much. The trouble with most busy men nowadays is that they attempt to do everything, or else in some cases there is an attempt made to put almost everything on the busy man. Of course, the busy people are the only folks who do things. They plan their work, and are thus able to do many times more than people who do not plan to use their time wisely. Mr. Mitchell would better go slower and thus live longer to help his fellow men.

MR. THOMAS G. NEWMAN, as most of our readers know, during the past year, on account of physical weakness and defective vision, has been unable to read and write. In the number of his Philosophical Journal for Feb. 2d, he says:

"With improved physical health the editor is now able to resume editorial work, and fully expects the return of vision at no very distant day."

All our readers will be pleased to know of the prospect there is for Mr. Newman to have the full use of his eyes again.

Contributed Articles.

No. 4.—Extracted Honey Production.

Can not Produce Both Comb and Extracted from Same Colonies—Limited Swarming Best—About Equipment—How to Make a Strainer.

BY R. C. AIKIN.

IT is practically out of the question to produce both comb and extracted from the same colony. I know it is *possible* to do it, but in an average field and in the hands of an average apiarist, it can not be made a success. Some of the things necessary to get both and be a success, would be a sure and positive flow, lasting long enough and of sufficient quantity to fill the sections put on. A flow giving two or more supers, may be taken part in each form by allowing the sections to be well nigh completed before adding the extracting-super, or by lifting the latter and giving sections under it. But the job is beset with so many difficulties I would say let none but experts undertake it. I will give up trying to tell how to do it.

I have already told you something about size of hives and their manipulation in building up colonies before the flow, and also somewhat about control of swarming. I will repeat, if you want best work and most honey obtainable where flows are somewhat uncertain and of short duration, the less swarming the better. This applies more fully to summer flows—a fall flow is different because one has all summer to build up and may be able to double, treble, or quadruple, the number of colonies and still have good working ones.

There are other things besides bees and hives needed in producing extracted honey. A honey-house becomes a necessity even when the apiary is very small, tho of course if one has only a half-dozen colonies or so, a small room or tent may be used in lieu of a honey-house specially built for the business, particularly when comb or section honey is produced; but when extracting and producing from 15 or more colonies, a room should be equipt for this alone. Extracted-honey production needs a larger equipment of tools and appliances than does comb, and needs more care and labor in getting it into proper shape for market. So far as the handling of the two products (comb and extracted) is concerned, there is more labor in the extracted, but in the preliminary work or management of the *bees* the comb takes both greater skill as an apiarist, and more labor. But I am not discussing the comparison of the two, hence will continue my subject.

Of course you want an extractor. As to whether a 2 or 4 frame machine, I think there is no very *great* economy in using the larger. I have used for many years a 2-frame machine, and now have a 4-frame one. I do not think I would go back to the 2-frame one; I consider the 4-frame size enough better—especially for extensive producers—to justify its use. If crank help is not convenient and cheap, the larger machine has the advantage. I would also use a reversible.

The extractor should be set solid that it maynot shake.

Uncapping and Extracting Honey.

It should also be conveniently arranged to get combs into and out of, having the uncapt combs where the crank-man can reach them easily. I have my uncapping arrangements to the right of the extractor, and just far enough away that there is room between it and the box that receives the cappings to have a rack or hive to receive the uncapt combs. I herewith present photographs of these fixtures as I have them set in my honey-house. The combs to be uncapt are to the right of the knife-pan, and when uncapt are past to the left to a receiving rack right close to the crank. This rack does not appear in the picture because it is down behind the capping-box. Immediately to the right of the capping-box and hanging on or attacht to it, is a small trough-like vessel containing water in which the knife lies when not in use. A small oil-stove keeps the water hot. A hot, wet knife cuts better than a cold, dry one.

The bottom of the capping-box is prepared with an incline to one point where is an outlet, and above this is a false or secondary bottom made of wire-cloth of 4 or 5 meshes to the inch, galvanized wire just like the extractor screens. The cappings drop upon this screen and drain thru to the outlet and the honey passes off at once.

Just beneath the uncapping-box, and extending from under it to the left clear to the extractor, is my strainer-

Uncapping Honey.

box. This is made of lumber about a foot wide, using 4 pieces, two of them 6 feet long and the other two about 20 inches. The short pieces or ends are gained into the sides about 1½ inches from the end, the gains about ⅜-inch deep and about ⅛-inch narrower than the thickness of the end pieces that are to go into them. The ends of the end boards are then beveled down this ⅛, so that when the box is put together, and driven and thoroly nailed, the joint becomes tight and will leak neither honey nor water. A precaution may be taken by putting white lead or linseed oil in the groove or gain before putting together; this makes a closer joint and prevents decay.

The bottom of this box I make of galvanized iron or of tin. The box can be made any size desired—I have made two or three of different sizes, usually the width to correspond to the width of the tin or iron that is to make the bottom, and as long as desired. The metal for the bottom should be enough larger than the *outside* measure of the box, so that it will project beyond the wood ⅛ to 3/16 inch, this projection to be turned up and pounded snug up against the lumber, after the iron is nailed on. The metal is laid on the box and nailed with flathead 1-inch or 3-penny fine nails, driving them about every inch. Do not drive the nails in a straight row, but zigzag them or alternate, one near the outer side of the board, and the next near the inner side, just so there is no danger of missing the wood. After it is nailed, take a strip of about ⅞ or one inch thick—you can make these by ripping out from the edge of a board. Nail this strip over the metal bottom clear around, using about 6 or 8 penny nails and driving right thru the metal into the edges of the sides and ends of the box.

These strips are not really needed to hold the bottom on—they serve another purpose. You see, if you should fill your box with honey and attempt to lift it, or have it set in such a way that there was no support under the bottom, the weight would sag the bottom more or less, the sides springing in as the bottom sagged. After these strips are nailed on—the box being mouth down, of course, while you are doing the nailing—you really have a little box just the depth of the thickness of the strips. Now cut one, two, or three strips as long as the inside width of the box, and 1½ or 2 inches wide, and the same thickness of the strips nailed around. These strips are to be just long enough to drop in *tight* across the bottom between the rim strips, and nailed thru the rims into their ends, nailing from the outside. These cross strips put in tight give the bottom a strong tension and prevent any sag. The rim and strips also support the bottom just their thickness from whatever set upon, and shield the tin or iron from being dented or bruised from any hard substance beneath.

This strainer-box also has a sub or false bottom made this way: A wooden rim or frame is made of strips about 1 inch by 1¼, and one or more strips of the same size and length as the ends put across spaced equidistant from the ends. Upon this frame is nailed a sheet of galvanized wire-cloth such as is used in the extractor-baskets. This screen is then placed in the box, being in its outside measure just scant the inside of the box, and rests on little cleats nailed to the sides of the box 2 or 3 inches above the bottom. On this false bottom or screen, spread a piece of cheese-cloth that is big enough to cover the whole top of the screen and reach up and lap or hang over both sides and ends a little, and you have a very good and complete strainer. When the cloth becomes clogged, remove and wash it.

Larimer Co., Colo.

Bee-Keepers and Bee-Supply Dealers.

An Inquiry Into a Matter of Equity, in the Court of Public Opinion.

BY "COLORADO."

I WILL restate the proposition because I failed to convey the exact point to the dealers in my first letter, on page 69. At any rate they did not get my idea fully.

THE QUESTION.

The excellent and only safe rule of buying bee-supplies for cash enclosed with order affords unequal measure of protection, of justice, of equity, to the two parties to the transaction. The rule makes the seller absolutely safe, but leaves the buyer to carry numerous risks—risk of error in count, risk of unsafe packing, risk of error in cutting, risk of destruction *en route*, risk of misreading or misapprehending the order, and other risks. Can the dealers and buyers devise a rule that will be equally fair, and equally protective to both parties?

THE ARGUMENT.

I am not prepared to offer a substitute. But I am studying the question.

Dadant says no rule can be laid down. I fear this is true. But this view is not creditable to our intelligence. Most of the dealers drop into a discussion of giving credit to buyers. To this extent they misapprehend the point of my query. Plainly, there should be no credit. The only route to right prices is under a spot-cash rule.

I do not ask you, Mr. Manufacturer, or Mr. Dealer, to surrender an ounce of the protection that you have. But I want an equal share with you.

If the buyer parts with his cash weeks before he gets his goods, the rule is not a spot-cash method for the buyer.

Experience has taught me something about writing orders. If I instruct the dealer to fill my order within a certain time, or else return the inclosed remittance, I invariably get prompt attention. Otherwise I may wait indefinitely, altho the dealer may have my cash. We buyers often fail to state our wants clearly.

Commercial honesty—I mean the ethical code governing business men—is superior to individual honesty. I

would not sell supplies, or other goods for that matter, on credit at all—except where satisfactory guarantees exist. And I doubt the wisdom of any exceptions at all. Some individuals are small, querulous, mean, unreasonable. These must be avoided.

To ship supplies—the same to be paid for after inspection and approval by the purchaser—would be more satisfactory than the requirement to pay in advance. Even fair, reasonable, capable men might differ as to the merits of goods. But if both want to do right, they will reach agreement.

I do not concur in Mr. Dittmer's paragraph as to publishers, if he means just what his language seems to convey.

Mr. Root's advice to deal thru a wholesale house, in my own State, is objectionable because involving needless expense. I will prove this at another time. Questions of locality and local freight charges enter in.

I demur to Mr. Falconer's remark that one who produces honey and sells it "is not in business." There is no reason why a little class of people with names in commercial reports should entirely monopolize the title, "business men."

But enough for to-day. A few neighborly remarks in the future, perhaps.

Do Bees Puncture Fruit?—Not Their Nature.

BY PROF. A. J. COOK.

I HAVE received from Hon. Eugene Secor, general manager of the National Bee-Keepers' Association, the following interesting correspondence:

PROF. A. J. COOK—

Dear Sir:—I send you a copy of a letter received from Prof. Slingerland, of Cornell University, New York. I would like to know how you coincide with the opinion of his senior professor regarding the structure of the bee's mouth. I have been led to think differently. I had been intending to send Prof. Slingerland as an expert witness in a case we have in New York, but, after receiving this letter, I changed my mind and did not ask him to go. I will rely on your statement of the case whether you agree with him or not. Yours truly,

EUGENE SECOR.

The following is Mr. Slingerland's letter to Mr. Secor:

ITHACA, N. Y., Nov. 20, 1900.

MR. EUGENE SECOR,—

Dear Sir:—Yours of the 11th inst. at hand. I enclose a copy of my Rural New Yorker article. This is as far as I can go in the matter. I have no original data to offer, and I do not feel competent to testify regarding the capabilities of the mouth-parts of the honey-bee to bite.

Prof. J. H. Comstock, head of the Entomological Department, is as competent as any one in the country to testify regarding these points. He has kept bees and has taught the structure of their mouth-parts for years. For me to prepare myself sufficiently to testify with knowledge would require more time than I can devote to it. With Mr. Benton, I do not think you will have any trouble to reverse the verdict of the lower court. I do not know enough about the mouth-parts to help you any.

I have just seen Prof. Comstock, and he says that he sees no reason, from what he knows of the mouth-parts, why a honey-bee should not be able to bite into a grape or peach. Hence, I doubt if you could get desirable testimony from here.

Sincerely yours, M. V. SLINGERLAND.

I regret that these letters were mislaid during my absence from home and have but just come to my notice. Of course it is too late to be of any use in the lawsuit which was then pending. It is, however, a matter of such general importance that a full consideration of the subject will not be out of place.

I fully agree with Prof. Slingerland, that no one in the country is better qualified to give an opinion in general matters of entomology than is Prof. Comstock. I do not wonder that he made the remark that he could see no reason from the structure of the mouth-parts of the honey-bee why it might not be able to bite into grape or peach. I should greatly hesitate to state that a bee could not puncture ripe fruit. I think Mr. Benton made such a statement in the suit referred to. I am rather inclined to the opinion that they could do so if they only knew their ability and had the curiosity to prompt the quest. I am, however, entirely certain that bees never do bite into fruit. They never attack any fruit until the oozing juice calls them to this luscious banquet. It simply is not their nature to do so. They are only attracted by odors in connection with color, and without the odor they would ever leave the fruit unmolested. If the skin of the fruit is intact, the odor is retained and the bee makes no visit. It certainly is the habit of bees ever to leave unmolested any and every sealed vessel like sound grape, cherry or peach.

I presume I have experimented more in this direction than any one else in the country, and therefore I may claim with some assurance the ability to give a correct judgment in the matter. I have repeatedly taken clusters of sound grapes that were very ripe, and pierced certain of them with pin or needle so that the juice would ooze out, and then placed them near the hive, or upon the alighting-board of the hive, and often upon the frames above the cluster of bees within the hive. This was done when there was no nectar to be gathered in the field, at which time, as every apiarist knows, the bees are ravenous to gather from any possible source. The bees would suck the wounded fruit but leave every other grape entirely untoucht. This was done over and over again, and always with the same results. The bee has a large brain for an insect, but, brainy as it is, it seems unable to form a judgment in the matter of the coveted juice if the latter be sealed up by the skin of the grape.

Every grape-grower has observed at some time when the grapes of the vineyard are very ripe, and when the weather is sultry and humid, that all at once the bees will rush to the vineyard and commence to sip juice from the grapes in great numbers. Of course, in such a case the presumption would be that the bees had bitten into the grapes. Examination proves, however, that this conclusion is utterly at variance with the truth. The overripe grapes affected by the sultry, humid atmosphere, were ruptured, and the tiny droplet of oozing juice hailed the eager bees and they rusht to the vintage with one accord. No wonder the vineyardist blamed the bees. The truth blamed the vineyardist, as he should not have allowed the grapes to become so overripe. In such case, I have hung sound grapes among those visited by the bees, and not one was toucht.

Some years ago, I was lecturing in the famous fruit region of South Haven, Mich. In my lecture, I stated the truth that bees never bite into fruit, and never attack the fruit to sip the juice, except that bird, wasp or Nature had set the latter to flowing previous to the visit of the bees. Many fruit-growers present were vehement in opposition to my view. They were certain that the bees would attack and eat into sound fruit. They had already exprest the wish that I would come the following summer and lecture to them again. I had exprest the fear of my inability to do so on account of college duties. I gave them an account of my experiments as given above, and said that I was not sure that bees could not eat into grapes. I was absolutely certain that they did not. They said that if I would come the next autumn they would prove to me that I was wrong. I replied that I would surely come; that they might telegraph to me at my expense, when I would take the first train. I added, however, "Look closely before you send the telegram, for if I show you after I come that I am right and you are wrong, then I shall want not only expenses, but pay for my time." Many present said, "We'll have you here next autumn."

The telegram never came. I lectured there afterwards many times, and was gratified to find that the opinion on the question was entirely changed. The pomologists were one with me in the matter.

Some years later, I was lecturing in the grape-growing region of Sandusky, Ohio, where there was almost an exact repetition of my former experience at South Haven, Mich. The Sanduskians sent no telegram, but repeated my experiments, only to become convinced that I was right.

It may be askt how I can be so certain that bees never do puncture grapes, when I acknowledge a possibility that they might be able to do so as far as the anatomy of their jaws is concerned. Bees, like all other animals, not excluding ourselves, are creatures of habit. Our fathers, not many generations since, put a stone in one end of the meal-bag to balance it on the horse They simply didn't think that meal as well as a stone could balance meal. While I feel sure that bees think a little, they are away behind us in this respect. Their every habit leads them to peer into the flower-tube in search of the precious nectar. They never go in quest of the sweet unless the escaping odor summons their presence. It is easy to understand why, with their limited thought and meagre reasoning powers, they never go peering into grape or other fruit so long as the same are sealed. Once let the juice ooze out of apple, pear, peach cherry or plum, and they are not slow to hasten to orchard or vineyard that they may stay the waste. It is not, then, a practical question whether they can or can not pierce the tender skin of overripe fruit. They never do so. And so

their ability, had they the sense to act, is not a matter of importance.

In California, where fruit-growing is so important an industry, this question has called forth not a little discussion. It has often given rise to hard feeling, and, in a few cases, to expensive lawsuits. I am glad to say, however, that here, as has long been true in Italy and Switzerland, the fruit-growers are beginning to understand that tho the bees are sometimes an annoyance, they do not attack sound fruit, and are invaluable aids in fruit-growing. Their good work in pollinating the flowers is of inestimable value. The fruit-grower, if anything, is more benefitted by the mere presence of bees than is the apiarist by the close proximity of the orchard.

Los Angeles Co., Calif., Jan. 21.

Spraying Fruit While in Bloom.

Valuable Experiments Conducted at the Geneva Experiment Station, New York.

BY ERNEST R. ROOT.

At the convention of the New York State Association of Bee-Keepers' Societies, held in Geneva on Jan. 9th, we had the very great pleasure of listening to an address by Prof. S. A. Beach, of the Geneva Experiment Station, detailing a very interesting series of experiments that were instituted to determine the advantage, if any, of spraying trees *while in full bloom*. These investigations had been requested by a certain class who believed that spraying during the time that the trees are in full flower was essential to the best development, growth, and maturing of the fruit. Prof. Beach called attention to the fact that a certain manufacturer of spraying outfits, had sent circulars broadcast over the country, advocating and urging the administering of poisonous mixtures during the time that bees work on trees. Then there were also some among the fruit-growers of New York who advocated spraying at such times, but who could not carry into effect such practice because a law had been enacted in 1898, making it a misdemeanor for any one to spray during the time the trees were in bloom. Some of the fruit-growers (not all) sought on several occasions to have this law repealed; but being foiled they finally secured the passage of an amendment which provided that trees might be sprayed during blooming-time for *experimental* purposes. The object of this amendment (and it appears the bee-keepers did not object to it) was to determine whether there was any advantage in spraying when the trees were in full bloom, irrespective of any damage that might accrue to the bee-keeper. As a result of this amendment a series of experiments was begun at Geneva, and also at Cornell.

In the conducting of the experiments, Prof. Beach stated that several questions were kept in mind: What was the effect of spraying while the trees were in bloom? did the spraying at such times affect the blossoms? did it kill the pollen? and if not, did it affect the setting or the development of the fruit? what part did the bees play in the matter?

Some bee-keepers, he stated, were inclined to make sweeping assertions to the effect that no fruit could set without the agency of the bees. This was altogether too strong a statement. That bees did play a most important part in the fertilization of some kinds of fruit-trees could not be denied. That question might be considered settled.

In the experiments that had been conducted, it was found that the blossoms that were sprayed just at the time they were in full bloom were either killed or injured. If the spraying were administered only during the blooming-time the poisonous mixtures did not go to the right spot, in a good many cases, for the simple reason that no cluster of apple-blossoms, for example, opened out at one and the same time. Some blossoms would be closed, and impervious to the effect of the spraying-liquids; and if no more spraying were administered after blooming-time, then these blossoms that were not open would not receive the benefit, and the fruit-eating insects would then get in their work. The professor brought out the point clearly, that if spraying were applied before blooming and after, the leaf-eating insects in the other, would be destroyed.

He further showed that the spraying-mixtures are exceedingly harmful to the development and growth of the delicate pollen. Some pollen was gathered and taken into the laboratory and mixt with a thin syrup, then afterward a quantity of spraying-liquid was applied, of about the strength that is used in spraying trees. It was found in every case that the pollen failed to grow. Then the spraying-liquid was reduced 50 percent, and still mixt with pollen and syrup which had been prepared, and still the pollen-grains failed to grow in most cases. The professor said he was decidedly of the opinion that spraying during blooming time was exceedingly harmful to the delicate reproductive organs, and to the pollen itself in the flowers of the fruit-trees. He referred to a certain Mr. Kellogg who had tried spraying strawberries while they were in bloom, and much to his sorrow. He mentioned a number of instances of fruit-men who formerly had believed that spraying during blooming-time was the correct practice, but now had been completely converted.

In the experiments that were conducted in four orchards located in different parts of the State, a certain set of trees were set apart and sprayed while in bloom, and only then, and others were not sprayed. Even tho the bloom was exceedingly abundant, it was found that those trees that were *not* sprayed during blooming-time yielded from a third to a bushel and a half more of fruit. In some cases they sprayed a half of one tree *several times* during blooming time, leaving the other side of the tree not sprayed. There was a markt difference in the setting of the fruit on the two sides of the trees, and that difference was decidedly in favor of the side not sprayed. Experiments were conducted in fruit-orchards in different parts of the State; and in one instance, at least (the Professor would not give the name) a certain fruit-man who believed that spraying during blooming-time was the right thing to do, estimated, after he had sprayed his whole orchard at such time, that he had lost nearly a thousand dollars. He had had enough of that business.

The Professor stated, however, that there was one instance when spraying right during blooming-time might prove to be advantageous; and that was, to kill the apple-scab that might come on at just that time; but even in such a case it has not yet been proved that spraying before and after bloom may not be equally efficient. But, generally speaking, the conclusion seemed to be that spraying during blooming-time was not only wasteful but decidedly harmful as well, cutting down the supply of fruit to an extent that, if generally practiced, would amount to thousands of dollars to the fruit-men all over the State.

On the evening of the first day we listened to an excellent address from another professor of the same station—Prof. V. H. Lowe. The experiments that had been conducted under his direction were for the purpose of determining the value of insects in pollenizing fruit-blossoms. A certain set of nine small pear trees (it was not practicable to use large ones) were envelopt in a hood of sheeting. This hood was large enough to slip down over the whole tree, something in the form of a bag—the bag tied at its bottom around the trunk of the tree. The object of this was to keep out insects, ants, bees or anything that might assist in pollenizing the blossoms. For the purpose of ventilation, some windows were made in the sheeting, and the openings covered with a fine netting. On all of these trees so covered, there was a large number of buds, and all the conditions were favorable for a good crop, except that the flight of insects was entirely cut off. Now, then, for the results:

Out of the whole lot of trees covered, there was just one fruit. On another set of trees not covered there were 145. In the other case, where it was not practicable to envelop the whole tree, one large limb, for instance, would be enclosed in the bag, the mouth of the bag being tied around the trunk of the limb. In one such instance there were 2483 buds of an apple-tree that were thus covered with the sheeting. Out of that number just one fruit matured. There was plenty of fruit on other portions of the tree where the limbs were not covered. In one case, where the sheeting broke open so that insects could get in, there were 13 perfect fruits from 818 buds. It was clearly shown that bees or other insects play a most important part in the pollination of average fruit-trees.

When the Professor was askt how much of this pollination was attributable to bees and how much to other insects, he said he could not tell; but Mr. O. L. Hershiser, in referring to a similar set of experiments made some years ago at the Michigan Agricultural College, showing the same results, said that the bees were altogether the earliest insects out: that at the time the average fruit-tree is in bloom it is too early in the spring for other insects to be of any value. In his opinion the covering of the limbs or the

covering of the whole tree as explained by Prof. Lowe (with the result that little or no fruit had set) showed clearly that the bees, and they alone, did the mixing of the pollen.

At the conclusion of both addresses, both professors were given a most hearty vote of thanks for the interesting and valuable testimony they had produced; and this testimony was the more valuable because both men began these experiments at the solicitation of the fruit-men, anxious to show that spraying during blooming-time was not detrimental but decidedly advantageous. Verily, the bees in York State have been and are being vindicated on every hand.

President Marks said he had made the statement that 95 percent of the bee-men of the State were also fruit-growers. He wisht it understood that a large number, yes, the majority of fruit-growers, acknowledged that the bees were their best friends; that it was only a few of the fruit-men who were at variance with the bee-keepers; that there was no real fight between bee-keepers and fruit-growers. Gleanings in Bee-Culture.

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 104.)

LAST EVENING SESSION.

The convention met at 7 o'clock, with Pres. Root in the chair.

Pres. Root—The pure-food commissioner of Illinois, the Hon. A. H. Jones, is present, and will address us. I have askt Mr. York, the president of the Chicago Bee-Keepers' Association, to introduce him.

Mr. York—Some other States have been heard from, but finally Illinois has caught up with them. For a long time we workt to organize a Pure-Food Commission in this State, and succeeded at the last session of the legislature, when the new law was past which provides for a pure-food commission. It was our pleasure at the meeting of the Chicago Bee-Keepers' Association last December, to have with us the pure-food commissioner who spoke to us and who made such a very favorable impression upon us. We were very thankful to have him with us then, and we assured him we would stand by him in his work to put down the adulteration of food, and I think I can say to him to-night the same thing that we did then—we as bee-keepers will cooperate with him in his work, and do all we can to help him make it a success. It gives me very great pleasure to-night to introduce to you our pure-food commissioner, the Hon. A. H. Jones. [Applause.]

ADDRESS OF PURE FOOD COMMISSIONER JONES.

Mr. Chairman, Ladies and Gentlemen:—

When I look over this vast audience, and know the cause in which you are gathered, it affords me pleasure to be here this evening to address you; for if there is anything that is dear to the human heart, it is something good to eat. That is what we are all striving for, to get the very best product we can; and if there is anything better than honey—real good, pure, old-fashioned honey—we have not yet discovered it. [Applause.]

There has something been said about the Illinois State Pure-Food Commission; if there is anything on the part of the commission I can say, it is also for my friend, Dr. Eaton, the State Analyst; if there is anything that will build up this cause more than another, it will be the State Food Commission. You have here, as I can testify, a very zealous friend in Dr. Eaton. The reason why I speak of that is, that all these food products come to him for analysis, and he must pass upon them. Now, I suppose that a good many of you who have been rather like good old Jacob of old, wrestling with the bee-question, have not thought of what a pure-food commissioner and a State analyst have to do. Think of it! When you look around over all the vast products of the State and see what we have to encompass, it is almost beyond imagination. You can hardly appreciate what we have to do; but I want to say to you that we have the fellows who are manufacturing these adulterated products—I don't care whether it is honey, I don't care whether it is maple sugar, or what it may be—we have them, in the State of Illinois, on the run. [Applause.] And we are going to keep them on the run. [Applause.] I had the pleasure last January, the latter part of it, as I recollect the time, of meeting with the Retail Grocers' Association of this State, down at Rock Island. There were 1200 or 1500 of them. I want to illustrate about how we are doing this in Illinois. After I had talkt to them for a day or so—you know that is a good while—and we had gone thru the law and exhausted it, and the rulings, I said to them, "Now, gentlemen of the Retail Grocers' Association of the State of Illinois, if you will not prosecute under this law, it is your own fault. The manufacturers of this State want to give a good product. All you have to do is to say to the manufacturer, 'We want a pure article, something that will comply with the food laws of Illinois, and we want you, upon each bill that you send us, to make the statement, that these goods were manufactured in conformity with the food law of Illinois.'" And that pretty generally has been required, so that to-day, I don't care whether it is baking powder, I don't care whether it is maple syrup, or what the article is, we don't have very much trouble now.

I said to them, "If you do this, gentlemen; if you see that that is done, and then it proves to be an impure article, we will then prosecute the manufacturers and not the retailers."

What was the result? I will give you a little inside history of it, the secret history on the quiet—don't want you to say anything about it to those baking-powder people or any of them, how we managed it. In the first place, the first people who objected to this were the Royal Baking Powder people; they said, "We have been manufacturing Royal Baking Powder 28 or 30 years; now to compel us to change the label will be equal to saying to the public, our goods are not as pure goods as we have been telling them all the time." I went to work with Dr. McMurty, the analyst for the company, and showed him wherein it was to their interest. I told him, "We feel confident the Royal Baking Powder is one of the best preparations;" and I also said, "You sell for 30 or 40 cents a can; and the powders with alum in sell for 25 and 30 cents. This is to your interest; the others who have been manufacturing cheap powders have been palming it off on the buyer. This ruling that every article should be stampt or labeled according to what it really contains, as for instance, baking powder, is in the interest of the best article. If yours is the best article, you want to uphold the hands of the commission." He went away, said he did not know about it; he would go back and report.

In about 5 or 6 weeks he came back—or, rather, he sent Mr. Boyesen, an attorney here in Chicago, to us and he came in with a letter from Dr. McMurty, stating that they had accepted our ruling, and they wanted to uphold the commission and they wanted us to make every other company label and carry out the law as our ruling required. I wondered why it was they had changed their ideas, and I askt Mr. Boyesen, and he said, "The fact is, we tried to sell it without that on the label, and the retailers would not buy it."

Now, wherever we have the retailers back of us, there is no trouble at all in this State. I want to say to you, we have the retailers of the State back of us, and we have had so far with all of these companies no trouble. You see what it led to. Here in Illinois they come to us—the larger cities, and especially in Chicago—saying, "Here, you are ruining our trade. We have had a good trade in syrups and honey and all that; we have been able, by making these 'blinds' or mixtures to sell, to compete; if we don't do it, we can't compete with these cheap fellows." We said to them, when they came to the office, "The cheaper fellows have to get out of the road; we are going to have nothing but the pure article; when it comes to maple syrup, it has to be maple syrup, nothing else goes on the label; and when we find any manufacturer that is making maple syrup that is not pure, we will prosecute him for it. That has not been the ruling. If they want to manufacture maple syrup and put anything in, let them label it partly glucose, and then it will be all right. It is the same way in regard to honey or to any food product, and when the consumer wants to purchase, he knows what he is doing. He knows what he is getting and he pays for what he gets.

For instance, you take maple syrup; it is worth about $1.40 a gallon; glucose is worth from 40 to 50 cents, and so on all along the line, and by compelling them to label it just what it is, it gives the maple syrup manufacturer a show, whereas heretofore he has had none, and they have pretty nearly driven the maple syrup manufacturer out of the market; but from this time on, he is going to have his inning."

As I said, we want to uphold the very best article; that is one reason why this law was instituted, so that the consumer may know exactly what he is getting, and pay for what he gets.

Excuse me, your secretary, Dr. Mason, notified me that we were limited to five minutes. If I exceed the time, you will "call me down;" but I heard him say this evening what a nice, noble band this was. What was it he said? He had not heard a profane word, had not seen any one smoke nor chew tobacco, nor take a drink. Well, now, I can understand that. If there is anything that ought to lift one above the plane of all these common, grovelling things of earth, it is pure honey; it is the cause that you are engaged in, and others seeing your good works in these lower walks of life—the glucose fellows and so forth—will, after awhile, get some inspiration and quit their business and go into it right, like you are doing, and sail under proper colors.

This Commission, in all seriousness, this Pure-Food Commission is to let the people know just exactly what they are getting, and when we do that there is no mistake, and we are helping you out. You are the bee-keepers' association; whenever the glucose, the maple syrups, or other products that come in competition with yours—whenever they are compelled to label their goods just what they are, then the honey man has his innings, and he has a fair show, and that is the exact object, as I understand it, this Commission is trying to attain.

In conclusion, I want to say to you that we have a very fine laboratory; we are located at 1623 Manhattan Building; Dr. Eaton, our State Analyst, has charge of it, and you are invited, one and all, to come and look in upon us. We have said to the other retail associations and manufacturers of the State of Illinois, whenever you find any one coming in competition with your business, that is manufacturing any product that is not what it represents itself to be, you notify this commission. We will send an inspector and inspect them, and then we will do the next thing—we will bring the strong arm of the law to bear upon them. Whenever we find from any reputable citizen that any one is violating the law by selling or manufacturing any article for other than what it really is, and palming it off for something that is inferior, all you have to do is to report that, and we will at once send an inspector, and we will seize the fellow and bring him up to the captain's desk, and there make him pay tribute to Cæsar. [Applause]. So that if any one in your town, and you know it—if you live in Illinois—is violating this law, is running his business contrary to it, it is your fault if he does it; for we stand here *ready*, and *willing*, and *anxious*, for it is our duty, and we are paid for it, to see that the law is enforced all over this State. If it can be done here in Illinois, it can be done in every other State in the Union.

Another thing I might say while on this subject. Last October I had the pleasure of meeting with the National Commissioners' Association of all the States here at the Palmer House, and there a committee on rules was appointed to try to get rules and regulations that would apply alike to all the States—rulings upon the law; and then another committee to formulate a law, so that each and every State might have the same law. Up to this time, each State has had its own law, and its own rulings, and it naturally has made a great deal of trouble, and I think in the next few months we can obviate a good deal of that. Of course the law can't be changed until the respective legislatures of the different States meet and pass new laws—a new law that may be suggested by this committee. We are trying to arrange so that every State can work in harmony, and when the producers of honey in one State produce honey, they know that the label that is put upon it will go into every State in the Union, as well as every other food product. We are trying to help out in the interest of pure food, and especially pure honey; for we all believe in that, even if the glucose man won't say a word against good honey. I want you to go ahead in the good work you are in, and whenever you see in Illinois a man that is imposing upon your rights, by making an inferior article, that does not come up to the law, if you will just report him, he will suddenly cease to do business, or else he will conform to the law.

A. H. JONES.

Dr. Mason—It might be a pleasure to the Honorable Commissioner to know that this Association has started something in the same line of which he has been speaking. We have to-day appointed a committee for the purpose of taking into consideration this very work of formulating and suggesting to the legislatures of the different States some way by which we all might work in accord under about the same kind of rulings. We are glad to learn that others are working in the same line.

Mr. Jones—It has been my pleasure in the past to be connected with one of the State Institutions—the State Normal for Eastern Illinois—formerly located at Charleston. We have here this evening one of the faculty; I have known him—I don't want to say for how many years, or some of the ladies here, as well as the gentlemen, might think he and I are getting old. I will say I have known him for 25 years, and he has a fine, delightful voice, and I don't know of any one who likes to listen to it better than I do. He is great on recitations, and I think this evening he will favor us with one of his choice recitations. Ladies and gentlemen, I have the pleasure of introducing to you Prof. Brownlee, of the Eastern Normal.

Prof. Brownlee—Ladies and Gentlemen:—Let me say, I think I should not have been here if I had thought on this warm evening I would have been called upon. I came to hear the honeyed eloquence of my friend on this occasion, and not to say anything myself. This is "the most unkindest cut of all," I think. He promist me I should have nothing to do, if I would come, but look at some beautiful pictures thrown upon a screen, and I suspect at that very moment he had in mind introducing me to the audience. However, I am willing, if I can entertain you a little. I am here this week attending a great soldiers' convention. One of the things that I am very proud of is that I was a soldier in the Great War. [Applause]. On the right side, too. I think both sides were honest, but one side only was right. I was on the right side, the side we are all on now, and so if you will permit me, I will choose a selection bearing upon that great struggle.

Prof. Brownlee then recited, "Why the Old Man Would Not Sell the Farm."

Pres. Root—I am sure we are greatly indebted to Prof. Brownlee and the representatives of the Pure-Food Commission of Illinois, for calling upon us and so pleasantly entertaining us this evening.

A vote of thanks was then unanimously extended to them.

(Continued next week.)

The Afterthought.

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Richards, Ohio.

THREE KINDS OF HONEY IN ONE APIARY.

It looks business to see three kinds of honey reported from an apiary instead of two—Extracted 11,900 pounds; bulk comb 7,800 pounds; section honey, 1,464 pounds. And, O ye furiously and completely reformed brethren, what are you going to do about it? O. P. Hyde & Son, page 44.

BUMBLE-BEES IN WINTER.

If I understand Mr. S. T. Pettit rightly, he has found in winter some kinds of bumble-bees, not all the species. Well, that's a good beginning—in dry cavities drifted full of leaves under big, old logs. If I ever found any I just went and forgot about it. Still, I guess there's nothing mysterious in the case. A thousand species of insects we seldom see in winter nevertheless get thru somehow. Presumably brood-rearing ceases early in a bumble-bee's nest; the slender stock of stores gets eaten up; then each bee for herself says, "What is home without a baby"—and without any call to dinner? And thereupon she wanders abroad. I suppose these wanderers forage and bask in the sunshine when it is pleasant, and hunt the warmest place they can find to crawl into when night approaches—not to come out for a week unless weather is fine—and eventually weather-bound until spring, providing they don't get water-soakt and frozen up beyond restoration before that time. Page 44.

CREDIT TO WHOM CREDIT IS DUE.

"Bees do nothing invariably." A good editorial on that topic is the one on page 51. But I shouldn't have told you so were it not that Sommy in the Progressive Bee-Keeper credits the proverb to me. Give Mrs. Tupper her due.

DOOLITTLE AS A "GREEN BEGINNER."

G. M. Doolittle as the "Arkansaw Traveler," and by and by, may be, the Arkansaw resident, why, we wouldn't know him! "Who's that green beginner off there?" we'd be saying. Page 52.

THE "BARRELS VS. CANS" CONTROVERSY.

In the long discussion of barrels versus cans on pages 53, 54 and 55, several things are apparent. One is that that heavy villain, the barrel, is not about to pull a tombstone over his head right away. Another thing is, that those who succeed well with barrels from year to year take more care than average humanity will take until pretty sorely whipt with losses and annoyances. Another thing is that the whim of a big buyer who is used to getting his honey in barrels has got to be yielded to. He'll buy of somebody else if you don't yield. Perhaps most remarkable of all is the utter decadence of the practice of treating barrels with wax or paraffine. Not one waxes his barrels now; and most, in their talk, seem not to have any such practice in their minds. Yet awhile agone we were to wax the barrels, of course, if we went according to book. Why is this thus? I'll venture the guess that waxing does no harm, but that it encourages the neglect of other precautions which are worth more. Or is it that ordinary, hardwood barrels will leak in spite of it, while just the right kind of soft-wood barrels can be made to refrain from leaking without it?

EARLY QUEEN-REARING.

And as advice anent getting wedded to early queen-rearing Mr. Doolittle pronounces the traditional "don't." D'ye hear, ye callow young people? And if you *will* disobey (young people have been known to do so) you *must* wait longer than merely to see young drones in open cells—else your queens will have to wait. Queens started when plenty of drones have been sealed a week—is the correct match.

Quite interesting is Mr. Doolittle's observation that the queen's development may be hastened at the utmost only one day, while it may be *delayed* four days by unpropitious circumstances and weather in the fall. Page 55.

"POP" AND HIS BEE-BOAT.

Mr. Poppleton and the "Thelma," on page 58, make me feel envious and piratical, e'enymost. Doubtful if anybody has ever found a better way to combine the three—health-seeking, pleasure and moderate profit—than by this open-air life of cruising and "beeing" along the coast of Florida. As we look at him standing there in the sunlight we are just prepared to hear him say (albeit he is gray-bearded and somewhat bent), "Wouldn't call the President my brother this minute." Six miles per hour will get there sufficiently soon if the "there" is not too far away. None of our business, but we are regretful that he did not give us the total cost of the little steamer.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

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Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Flat-Bottom Queen-Cells.

I have made a lot of artificial queen-cells, *a la* Doolittle, with flat bottoms. Since making them I have been informed that the bees will not accept them as readily as the round-bottom queen-cells. Which is the better?

COLORADO.

ANSWER.—I never before heard of queen-cells with flat bottoms, and I don't believe the bees would like them. Still, you can hardly be sure about anything without having the bees try it, and it is possible the bees might accept queen-cells with flat bottoms.

Amount of Honey in 10 Frames—Spacing Frames.

1. How many pounds of capt honey is there in 10 Hoffman frames (9 inch) before it is extracted?

2. If I choose to space them 8 frames in a hive, how far apart can they be put?

3. Is there any danger of the bees building combs on the cover? CALIFORNIA.

ANSWERS.—1. I don't know what you mean by "9 inch," unless it be the depth of the frame, the usual depth of the Hoffman frame being $9\frac{1}{8}$ inches. Ten Hoffman frames well filled may contain as much as 60 pounds of honey, if there is no pollen in them.

2. That depends upon the width of the hive; but you probably have reference to having 8 frames in a 10-frame chamber. In that case you would space the frames about $1\frac{3}{4}$ inches from center to center.

3. If you put 8 frames in a 10-frame chamber, and the cover is only $\frac{1}{4}$ inch above the top-bars, as is generally the case, there will be no danger, I think, that the bees will do much more at building comb above than with the 10 frames.

Hives Damp and Moldy in the Cellar.

My nine colonies of bees are wintering in the cellar. They are in 8-frame dovetailed hives. The cellar is moderately dry and warm—vegetables keep well in it. The hives were brought in from the summer stands Nov. 26th, the bottom-boards removed, and the hives placed crosswise upon a shelf some two feet from the ground. This shelf is about a foot wide, so the middle of the hive rests upon it, leaving a space three inches or more open at each end of the bottom of the hive for ventilation. The hive-covers have remained sealed down as on the summer stands.

I noticed, Jan. 30th, on raising a hive-cover, that it was wet beneath, so much so that water dript from it, and some mold appeared on the top of the frames. The colony, to all appearance, was strong and vigorous. I should judge all the other colonies are in the same condition as this one examined. What would you advise me to do with them?

MAINE.

ANSWER.—Your bees may come out all right if you let them entirely alone. But it is certainly no benefit to them to have water standing on the cover, and if that water drips on the bees it may be a damage. The moisture from the bees comes in contact with the hive-cover, and the hive-cover is so cold that the moisture condenses upon it just as water from the air settles on a pitcher of very cold water on a hot summer day. If the cover were warmer, the moisture would not be so much inclined to settle upon it. Possibly the cellar should be warmer. Try it by a thermometer, and try to keep it somewhere in the neighborhood of 45 degrees, or, to be more exact, keep it at the temperature at which the bees are most quiet. If the air of the hive had freer escape, the moisture would escape with it. To help in that direction it may be a good plan to raise each cover and put a common nail under it, so as to make a small crack for the air to escape.

GENERAL ITEMS

A Beginner's Report.

I have been keeping bees for over two years. I bought 5 colonies at $7.50 each, in Langstroth hives. I took off 300 pounds the first season, and increast to 11 colonies. The next season I secured 800 pounds of extracted and 200 pounds of comb, and increast to 21 colonies. In the fall I sold the 21 colonies at $5.00 each, and went out of the business, because I could not stay at home to care for them properly, but I still take the Bee Journal, and enjoy reading it. I think I did well for a beginner. J. A. Moss.

Missoula Co., Mont., Jan. 24.

Honey-Failures a Matter of Locality

I have read in the Bee Journal of the hard times bee-keepers have had in Southern California in consequence of the rather dry seasons, and fear that others may get the impression that there were general failures of the honey crop all over Southern California. I would like to say in justice to this part of the country, that the failures were more a matter of locality. It is quite true that the last three years we have not had the average rainfall, but in spite of that, in well adapted localities, there is always some honey secured.

For instance, last season I secured over 5,000 pounds of surplus honey from 36 colonies, which is about 140 pounds per colony, and increast to over 80 colonies. Most of the bee-keepers in this vicinity and the neighboring valleys got as much, and some even more. Mr. J. M. Hambaugh secured 150 cases of extracted honey, each containing 120 pounds net, which is about 200 pounds per colony. These are not bad results for a dry year, and show what we may expect in a good season. One of our country stores shipt two car-loads of honey to Germany the past season, and two more car-loads were consigned to the East.

Since Christmas bees have been collecting nectar and pollen from manzanita, eucalyptus, pepper-trees, wild gooseberries, currants, California lilacs,

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Gleanings in Bee-Culture! Extraordinary Offer.

Gleanings for Jan. 1st contains these Special Articles:

Queen-Rearing in France, —by— Giraud-Pabou	314 queens from one hive. How it was done. Illustrated by 3 half-tone engravings.
Candied vs. Bottled Liquid Honey, by Chalon Fowls	Figuring up the profits on bottled honey. Illustrated.
Wintering Bees in Clamps, (From Bee-Keepers' Review) —by— W. Z. Hutchinson	Four illustrations. No one is better qualified perhaps than Mr. Hutchinson to write on this subject. His many years' experience wintering bees in Michigan should give weight to his opinion.
Conversations —with— Doolittle	Those who have read bee-literature for years always find Doolittle's writings full of practical information. Those who are not familiar with his writings are invited to read a series of practical articles on general topics relating to bee-culture under the title, "Conversations with Doolittle."

Gleanings for Jan. 15th.

Co-Operative Organized Work, by R. C. Aikin	Its benefits demonstrated; The Colorado Honey-Producers' Association an information scheme; The work of the Association outlined.
An Extracting Outfit, by W. A. Gilstrap	Illustrated.
Mintle's Lightning Section-Folder	Illustrated.
Stray Straws, —by— Dr. C. C. Miller, Every Issue	These "Straws" appear in every issue of Gleanings, constituting one of its most valuable features. Dr. Miller reviews nearly all of the bee-journals publisht, American and Foreign, and readers of Gleanings get the benefit in these "Straws," thereby receiving much valuable information publisht in the Foreign journals.
Pickings from Our Neighboring Fields, by Stenog, Every Issue	For several years Gleanings readers have been privileged twice a month to enjoy short squibs from this writer's pen. Not only does he give us articles full of value gleaned from other journals, but they are so enlivened by his vein of humor that they are eagerly read by all.

Gleanings for Feb. 1st.

Our Honey-Bottling Symposium, Fully Illustrated, by G. A. Deadman, Earl C. Walker, and Walter S. Pouder	How to wash bottles; Filling with hot honey or cold; Bottles with corks or self-sealing tops; Temperature of honey to be bottled. The right kind of honey for the purpose; Mixing honeys to secure a flavor; Why honey should be heated in the bottles. Size and construction of vats for heating the bottles of honey; Tumblers vs. jars or bottles.
The Personnel of the Utter Trial by E. R. Root	A full review of this celebrated case of Utter vs. Utter, or Bees vs. Peaches.
The Belgian-Hare Business, by W. K. Morrison, of Devonshire, Bermuda	A fair statement; Extravagant statements; Bees and rabbits not a good combination.
Co-operative Organization, by R. C. Aikin	Plans outlined; Intelligence bureau; Why simple co-operation fails; Business must be at the bottom; Government's duty; A continuation of this writer's article which appeared in Jan. 15th Gleanings.
Cuba, by The American Tramp	This writer has been in Cuba some two years, and writes understandingly.

SPECIAL OFFER.—Each one of the issues mentioned above should be worth a dime to every bee-keeper, but we will send all three for only 10 cents. Hurry along your order before they are all gone.

BETTER YET.—Send us 25 cents at once, and we will send you Gleanings in Bee-Culture 12 issues, 6 months, beginning Jan. 1st. Feb. 15th will contain several articles on

Cuba, by Harry Howe, Robert Luaces, and A. L. Boyden	Mr. Howe was formerly with Coggshall, of New York, and has already given Gleanings readers glimpses of Cuban bee-keeping. Mr. Luaces, of Puerto Principe, considers that conditions are not well known and gives information somewhat different from other writers. Mr. Boyden begins a series of articles entitled, "Glimpses of Cuba and Cuban Bee-Keeping," illustrated by photos taken by himself.

Remember. Six months for 25 cents, and your money refunded July 1st if you are not satisfied. Mention the American Bee Journal.

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etc. The orange trees will soon be in their full glory, and it is a sight to delight one's heart to see the bright-colored fruit between the dark green foliage, the trees covered with the fragrant blossoms, and innumerable humming bees collecting the sweet nectar. Almonds, peaches, apricots, and other fruit-trees will also soon be in bloom, besides alfilaria and numberless wild flowers.

Bees are building up very nicely to be ready for the main honey-flow from the far-famed black and white sage honey, which begins in April in good seasons, and lasts until about the middle of July. After this sumac, wild buckwheat, and other nectar-yielders continue till October.

We have had three nice rains this season, and it begins to look as if the more favorable conditions were returning again. L. MARNO.

San Diego Co., Calif., Jan. 24.

Bees Did Poorly.

The bees did poorly in this locality the past season. I did not get any swarms, and hardly secured honey enough for winter stores.

This is my second year of bee-keeping, and I have five colonies now which I transferred into new hives.

D. E. EVERS.

Otoe Co., Nebr., Jan. 29.

Prospects Good for the Coming Season.

The past season was a bad one for the apiaries in this State. Most of them are left in a mixt-up condition; many are diseased, nearly all are reduced in number of colonies, and there must be many that have been wiped out of existence.

From my 100 colonies, spring count, I increast to over 130, extracted 6,000 pounds of very fine sage and buckwheat honey, and rendered over 100 pounds of wax. I have sold but little of the honey, and I shall make the wax into foundation.

The prospects for the coming season are much more favorable than they have been for three years, and if the conditions continue there will be a rich harvest for the bees. Yesterday I went to my out-apiary, some 25 miles from the city, to "size up" the situation as to the prospects, and came away in good spirits, altho I got a good soaking before returning. Last year we had 4 57/100 inches of rain; this year to date we have had 9 inches, and it all

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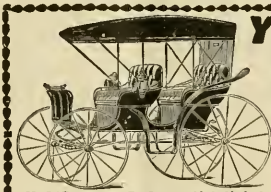

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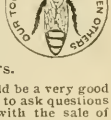

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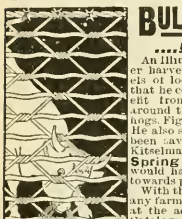

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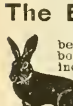
The Belgian Hare Guide



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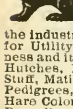

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has fallen at intervals conducive to the most good. We may reasonably expect enough more rain to round out the year, not only to the benefit of the apiary, but to all other industries which receive good from it.

I do not think there will be any overproduction of honey, however favorable the season may be, because so many apiaries are in such poor condition. It will take most of the season to get the colonies in good working order again, therefore I do not anticipate that the Eastern market will be overstockt with California honey.

My year is up, and I want the American Bee Journal for another year, because of the benefit I derive from it.

ALBERT ROZELL.

Los Angeles Co., Calif., Jan. 28.

Farmers and Sweet Clover.

We have had two poor seasons here, but the indications are fair for a good honey crop next season.

Farmers in this vicinity have begun to see the benefits of sweet clover. One of the leading farmers of this section sowed 10 acres of corn to sweet clover last July, and says he will get two crops of hay next summer, plow the third crop under, and raise wheat on the land the next season. Thus he raises a full crop each year, and improves his land by the rotting of crops, which he says is the cheapest fertilizer he can get. He expects to plant another 10 acres of corn next spring, and the latter part of July or the first of August sow sweet clover seed among the corn, and in this way will not lose the use of his land any year. He thinks the clover improves the yield of wheat about 10 bushels to the acre. He has been experimenting with it for several years. He intends to commence keeping bees, and if he does he will make a success of it.

C. W. SNYDER.

Garfield Co., Utah, Jan. 24.

Poor Prospects for Next Season.

I have 80 colonies of bees in 8-frame Langstroth hives, and run them for comb honey. As the past season was a poor one in this locality they did not average above 20 pounds per colony, and I do not think that the honey-crop of Utah would average more than 10 pounds per colony.

Foul brood has been quite prevalent here the past two years; it seems that the disease has a tendency to follow a poor season.

The prospects for the coming season are not very bright; we depend upon irrigation for bee-forage, and as but little snow has fallen up to date, if we do not get more the season will be disastrous indeed to both farmers and bee-keepers.

E. B. NELSON.

Utah Co., Utah. Jan. 28.

Bee-Moths and Millers in Apple-Trees.

I had 25 colonies of bees during the past season, 20 of which I had under the grape-vines, and 5 in the orchard under the apple-trees. Only one colony out of the 20 under the grape-vines was bothered with moths, while all 5 of those under the apple-trees had moths in them. I put two under a crab-apple tree which bore deep-red apples, one

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GEO. H. STAHL, Quincy, Ill.

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GINSENG $10. in plants produce $4,069.10 in 10 years. Book telling how to grow it, 4c. Lakeside Ginseng Gardens, Amber, N.Y.

WE MAKE INCUBATORS that hatch strong, healthy chicks and lots of them. Our faith in these facts is such that we send you our

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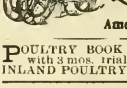
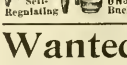


Ames Plow Co., 24 Market St., Boston.

POULTRY BOOK FREE, 64 pages, illustrated with 3 mos. trial subscription to our paper, 10c INLAND POULTRY JOURNAL, Indianapolis, Ind



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The 50 egg $5 machine that hatches equal to the highest priced made. Has hatched 50 chicks from 50 eggs hundreds of times. CAN'T ON 30 DAYS FREE TRIAL. Catalog No. 58 sc. Buckeye Incubator Co., Springfield, O.

Wanted! Two or three apiaries for cash, located in Colorado. Give full particulars in first letter, and lowest cash price; comb honey preferred.

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The Premium combined riveter, rivet magazine and Buckle punch is a complete repairing outfit for harness, belting, etc. Carry it in your pocket; holds 50 rivets and is always ready. Makes a perfect clinch. Price only $1, including a year's subscription to Dairy and Creamery—the "different" dairy paper—devoted to money making dairying, not theories. Send for free sample copy. We want agents for quick selling novelties. Write for terms. You can make big money. Agreeable work.

DRAPER PUB. & SUPPLY CO., CHICAGO, ILLINOIS.

Please mention Bee Journal when writing.

under a fall apple-tree which bore apples about the color of lemons, and two under a winter apple-tree, the apples having a brownish color (rusty coats), and the worms from these trees dropt on the hives underneath them, and workt their way into the hives and around the sides, and in each instance the worms were the color of the apples in the tree above the hive on which they fell.

It is my opinion that the worms that fall from the trees and crawl into the hives are the color of the tree from which they came until they become millers.

The worms which got into the colony under the grape-vines were of a natural color.

I went into the country to visit a friend, and while I was there he made apple-cider, and askt me to help him, which I did. We went to the orchard and gathered the very best of the apples, cutting out the cores and all the rotten and worm-eaten spots. After throwing the cores away I noticed hundreds of millers gathering on them, then I lookt up and saw as many among the trees, and some of them alighted on the apples. The next morning I examined the apples, and found that the millers were stinging them, and planting their eggs in those that were ripe or matured. The millers sting the apples at the stem, at the blossom end, and on all sides, and when the eggs are hatcht into worms they work themselves toward the heart of the apple.

I would like to know if it does any good to spray the trees while they are in blossom. Some of our professors claim that the eggs that are laid in the blossoms are killed when the trees are sprayed. I do not believe it does any good to spray the trees, as my observation is that the millers plant their eggs in the apples after they have matured. AUGUST ROSENBERGER.

Iroquois Co., Ill., Dec. 10, 1900.

[See the article on spraying fruit, on page 120 of this number.—EDITOR.]

Convention Notice.

California.—The annual convention of the California State Bee-Keepers' Association, will be held in the Chamber of Commerce, at Los Angeles, Feb. 25 and 26, 1901, beginning at 1:30 p.m., on the 25th. Several valuable papers have been promist, and we expect an interesting convention. J. F. MCINTYRE, Sec.

R. WILKIN, Pres.

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at prices that are the lowest. Catalog giving

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6Atf Mention the American Bee Journal.

CAREER AND CHARACTER OF ABRAHAM LINCOLN.

An address by Joseph Choate, Ambassador to Great Britain, on the career and character of Abraham Lincoln—his early life—his struggles with the world—his character as developt in the later years of his life and his administration, which placed his name so high on the world's roll of honor and fame, has been publisht by the Chicago, Milwaukee & St. Paul Railway, and may be had by sending six (6) cents in postage to F. A. Miller, General Passenger Agent, Chicago, Ill. 6A3t

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Jan. 19.—Honey is selling slowly; this applies to all grades with the exception of white clover and basswood comb honey, which sells readily at 16c providing it grades No. 1 or better. All other kinds of white comb honey sell at from 14@15c, and candied white comb at from 8@10c; travel-stained and off-grades of comb, 13@14c; amber, 12@13c; amber extracted, 7@7¼c; dark and buckwheat comb honey, 9@10c. Extracted, white, 7c, 7¼@8c; basswood and white clover bringing the outside prices; buckwheat and other dark grades, 6@6½c. Beeswax, 28c. R. A. BURNETT & Co.

KANSAS CITY, Jan. 22.—Fancy white comb, 15@16c; amber, 13@14c; dark, 9@11c; demand good. Extracted, 7@9c; demand quiet. Beeswax, 20@30c.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

CINCINNATI, Feb. 9.—The market for comb honey is becoming very bare, altho the prices have not changed. Fancy white comb is still selling for 16c; no demand for darker grades. Extracted is in fair demand; dark sells for 5½c; better grades from 6½@8c; only white clover brings from 8½@9c. Beeswax, 28c.

C. H. W. WEBER.

ALBANY, N. Y., Feb. 11.—Honey market is dull and prices nominal; light stock, but the cold weather is bad for it. Comb, in good order, not candied, white, 15@16c; mixt, 13@14c; dark and buckwheat, 11@12c. Extracted, white, 7@8c; mixt, 6@6½c; dark, 5½@6c.

H. R. WRIGHT.

BUFFALO, Feb. 8.—Some more active this week, and may clean up better than expected awhile ago. Fancy 1-pound comb, 15@16c; No. 1, 14@15c; No. 2, 12@13c; dark, buckwheat, etc., 8@10c. Beeswax, 25@28c. BATTERSON & Co.

BOSTON, Feb. 8.—Fancy No. 1 white in cartons, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. Absolutely no call for dark honey this year. Extracted, white, 8@8½c; light amber, 7½@8c. Beeswax, 27c.

BLAKE, SCOTT & LEE.

NEW YORK, Dec. 22.—Fancy white, 15@16c; No. 1 white, 14c; No. 2 white 12@13c; amber, 12c; buckwheat, 10@11c. Extracted in fairly good demand at 7½@8c for white, and 7c for amber; off grades and Southern in barrels at from 65@75c per gallon, according to quality. Not much demand for extracted buckwheat as yet. Some little selling at 5½@6c. Beeswax firm at 28 cents.

Demand continues good for comb honey; supply fairly good. Extracted in fair demand with enough supply to meet requirements.

HILDRETH & SEGELKEN.

DETROIT, Jan. 19—Fancy white comb, 15@16c; No. 1, 13@14c; dark and amber, 12@13c Extracted, white, 7@7½c; amber and dark, 6@6½c. Beeswax, 26@27c. M. H. HUNT & SON.

SAN FRANCISCO, Jan. 9.—White comb 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber 6¾@7¼c; amber, 5½@6½c. Beeswax, 26@28c.

Stocks of all descriptions are light, and values are being as a rule well maintained at the quoted range. Firmness is naturally most pronounced on light amber and water white honey, the latter being in very scanty supply.

HONEY MARKET.—We may have a customer within a short distance of you who wants your honey or beeswax. We are in close touch with all the markets; therefore write us regarding your crop, stating quantity, quality, and lowest cash price. References—Either Bank here for any business man in this city.

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—DO YOU WANT A—

High Grade of Italian Queens

OR A CHOICE STRAWBERRY?

Send for descriptive price-list.

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For Sale Extracted Honey from Alfalfa—60-pound cans at 7c; and smaller cans.

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☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	60c	$1.00	$2.25	$4.00
Sweet Clover (yellow)	$1.50	2.80	6.25	12.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	90c	1.70	3.75	7.00
White Clover	90c	1.70	4.00	7.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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These tickets will be good on all trains, and purchasers will have choice of 6 routes and 8 trains via St. Paul, and 2 routes and 3 trains via Missouri River each Tuesday. The route of the Famous Pioneer Limited trains and the U. S. Government Fast Mail trains.

All ticket Agents sell tickets via the Chicago, Milwaukee & St. Paul Railway, or for further information address F. A. Miller, General Passenger Agent, Old Colony Building, Chicago. 6A3t

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Because it has always given better satisfaction than any other.
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Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3½ miles apart, and mated to select drones, $1.50 each; untested warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and but few within 5 miles. 28 years' experience. Discount on large orders. Contracts with dealers a specialty. JOHN M. DAVIS,
6A26t Spring Hill, Tenn.

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Careful readers may remember very remarkable hatches made by the Des Moines Company at several large poultry shows last year, incubation being started at Des Moines and timed to bring out the hatches during the exhibits. While being incubated the machines with their precious contents were shipt almost 1,500 miles by express, were several times transferred in open wagons, and all without diminishing the high percentage of chicks hatcht, for which the Des Moines machines are famous. No other explanation of these remarkable feats can be given other than the great care taken in the building of these incubators, and the correct and scientific principles upon which they are made.

Readers of this paper who contemplate purchasing an incubator, will certainly serve their interests by sending for the Company's new catalog. Please refer to their advertisement elsewhere in this paper, and note the conditions under which the book is sent. It cost the Company a great deal of money to compile it, and it should on that account find a permanent place in every poultry breeder's library. Address, Des Moines Incubator Company, Des Moines, Iowa, and kindly mention this paper when writing to them.

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in car lots, wholesale or retail. Now is the time to get prices. We are the people who manufacture strictly first-class goods and sell them at prices that defy competition. Write us to-day.

Inter-State Box and Manufacturing Company,
47Atf HUDSON, WIS.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., FEBRUARY 28, 1901.

FORTY-FIRST YEAR
No. 9.

WEEKLY

QUEEN-BEE (Magnified) AND EGG.
(Photograph from life.)

THE AMERICAN BEE JOURNAL

PUBLISHT WEEKLY BY

GEORGE W. YORK & CO.

144 & 146 Erie St., Chicago, Ill.

Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

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Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

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To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey commissionmen.

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ARE DEMANDED NOW.

ONE Untested Italian Queen FREE as a Premium for sending us TWO new subscribers to the American Bee Journal for one year (with $2); or, one Tested Queen free as a premium for sending us FOUR new subscribers (with $4.00.)

We have arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us the coming season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

Orders for these fine, "long-reach" queens will be filled in rotation—"first come, first served"—beginning about June 10th. It is expected that orders can be filled quite promptly, as a large number of nuclei will be run. All queens will be guaranteed to arrive in good condition, and all will be clipt, unless otherwise ordered.

CASH PRICES of these fine queens will be as follows: Untested, $1.00 each; Tested, $2.00 each. Send all orders to

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26 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 26 cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price.

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GEORGE W. YORK & CO., 144 & 146 Erie St., CHICAGO.

Best White Alfalfa or Basswood Extracted Honey

ALL IN 60-POUND TIN CANS.

ALFALFA HONEY.....

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.

BASSWOOD HONEY.....

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms in Wisconsin. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

A sample of either, by mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. The cans are boxt.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., FEBRUARY 28, 1901. No. 9.

Editorial.

Joining the National in a Body.—Several local associations have already taken advantage of the provision in the constitution of the National Bee-Keepers' Association, which reads as follows:

"Whenever a local bee-keepers' association shall decide to unite with this Association as a body, it will be received upon payment by the local secretary of 50 cents per member per annum, provided that the local association's membership dues are at least $1.00."

Referring to this matter in a recent letter to this office, Dr. A. B. Mason said:

EDITOR YORK:—I have just forwarded a draft to General Manager Secor for the amount of fees required to make the members of the Cayuga Co., N. Y., Bee-Keepers' Society members of our National Bee-Keepers' Association. Also, I have just received a letter from the Worcester Co., Mass., Bee-Keepers' Society, making enquiry as to the terms on which their organization of 40 members can join the National.

Won't you just suggest that all the local bee-keepers' societies on this continent "go and do likewise?" Also add that it is necessary to send the name and post-office address of each member with the membership fee.

A. B. MASON.

LATER.—I have just received a letter from General Manager Secor, saying: "New members are coming in all the time, and the finances are in a healthy condition." That's the kind of a "ring" to have, and to hear, and to belong to. A. B. M.

We are indeed glad to learn of more bee-keepers' societies taking advantage of the low membership fee when joining the National in a body. We believe the Wisconsin State Bee-Keepers' Association was the first thus to join, and was followed by the Chicago Bee-Keepers' Association a month or two later. At the recent meeting of the Wisconsin Association the memberships were renewed for both the State and the National associations. This is just as it should be.

The fact that more organizations are "enquiring the way" is a healthy sign, and should ultimately increase very largely both the membership and the treasury of the National. It will be surprising to all, what can be done in many ways when bee-keepers once unite, not only to defend themselves, but to push their interests on every occasion when to do so is both proper and right.

We have been greatly encouraged during the past month or two on account of receiving so many membership fees at this office, all of which have been duly forwarded to General Manager Secor, who doubtless has promptly mailed individual membership receipts. We are ready and willing at all times to receive such dues and send them to Mr. Secor.

We wish there migbt be more local societies organized under the provision of the National constitution, as before quoted, and that all such local organizations might see their way clear to elect say two delegates to the National convention each year. This would not only be an honor conferred upon those delegates, but would furnish the kind of representation in the National that every local association should have. Suppose there were 50 local associations scattered over the United States and Canada, each one of which should send two of their best men to represent them in the National Association. If the representatives would attend the National there would be an assured attendance of 100 of the best bee-keepers in all the country. This of itself would insure a great convention, to say nothing of the attendance of bee-keepers residing within 100 or 200 miles of the place of holding the National convention. Of course, there should be more than 50 local societies in the United States alone

What we would like to see is this: Let there be county and district associations holding an annual meeting, and sending one or two delegates each to the annual State convention; and each State association send two delegates to the National. This would give representation to the humblest members of the pursuit. Membership dues of $1.00 in the county or district association should be sufficient to make each bee-keeper a member of all three organizations. Twenty-five cents of the $1.00 can be retained by the local association; 25 cents to be sent to the State organization; and 50 cents to the National, just as is provided for now.

We fully believe this scheme is entirely workable, and that some arrangement ought to be made at the next National convention providing for this plan or something similar. We are ready to co-operate along any line that will give promise of unifying the bee-keepers, and building up an organization that will be able to take care of their interests.

The Anti-Bee-Legislation, as recently proposed in the Wisconsin Legislature, has received its deserved quietus. Mr. N. E. France, president of the State Bee-Keepers' Association, wrote us as follows about the matter, Feb. 9th:

"This morning the Legislative Agricultural Committee at Madison, reported for *indefinite postponement*, on Bill 193A—to assess and tax bees, also to license moving bees to any other town than owner's residence."

Mr. France has been working almost night and day since the State bee-keepers' meeting, Feb. 5th and 6th, to accomplish the above action. We knew he would be successful, for there was rank injustice in the bill referred to. For instance, the great poultry industry of Wisconsin is not taxt. Why, then, tax bees, which are so much more uncertain stock than is poultry? Persoually, we think bees should be taxt at a small value per colony, but not before poultry is put on the property list.

Again, the bill proposed to tax those bee-keepers who desired to practice migratory bee-keeping. It provided that any bee-keeper who desired to move his apiary to another field where the bees might take advantage of a better honey-flow, must pay a license fee of *$1.00 per colony per month* before being allowed to move into another township. That is, if he had 100 colonies which he wisht to move to another field for four months, he would have to pay a license fee of $400!

No sane legislators would favor such injustice, we are very certain.

The Apiary of Mr. F. M. Wagner is shown in two views on page 135. No. 1 presents it with the revolving roof in a horizontal position to shade the hives from the noonday sun. No. 2 shows the roof on a slant to protect from the afternoon summer sun, or from chilling winter blasts.

In a letter accompanying the photographs, Mr. Wagner says:

The hives are the 10-frame, with an all-wool blanket between the brood-chamber and the super, but held up from the frames so the bees can pass over from frame to frame. The super is then filled lightly with short straw. The ventilation seems to be enough for this climate [Adams Co., Ill.], under a trial of four winters—south of the 40th parallel, and three miles east of the Mississippi River.

Value of Bees to Alsike Clover.—Secretary Couse, of the Ontario Bee-Keepers Association, said at the last convention that the nearer a field of Alsike clover is to an apiary the better the yield of clover seed. He had applications from two men who wisht him to locate bees near them. The value of bees to fruit-growers and farmers is being proven over and over as time goes on. Ignorance is a hard thing to overcome, but it's yielding more and more.

Tin Cans vs. Barrels.—Mr. J. H. Martin, in Gleanings in Bee-Culture, offers another argument in favor of tin cans for shipping honey. He says: "Freight rates on honey in tin cans cased, from California to the East, are $1.10 per 100 pounds; on honey in barrels, $1.30 per 100 pounds; on honey in glass, $1.30 per 100 pounds. Observe honey in barrels and glass is in the same class. The railroad companies evidently know where the greatest risks are."

Comment is unnecessary.

Weekly Budget

PROF. A. J. COOK writes us that the "bull-dog ant" of Florida, mentioned on page 72, is "Camponotus esuriens, Smith," which he learned from Dr. L. O. Howard, entomologist of the Department of Agriculture, Washington, D. C.

THE OFFICIARY of the Ontario Co., N. Y., Bee-Keepers' Association is as follows: President, W. F. Marks; vice-presidents, H. L. Case, John Page, Chester Olmstead; secretary, F. Greiner, of Naples; treasurer, L. B. Smith; and honey inspector, E. H. Perry.

MRS. ARTIE BOWEN, of Merced Co., Calif., writing us Feb. 12th, said:

"I think this is going to be a good honey-year in California. The bees in this locality have wintered well so far, and our winter is about over. The almonds are coming into bloom, and within two weeks our orchards will be in full bloom."

MR. W. E. FLOWER, of Montgomery Co., Pa., is one of the noted bee-cranks around Philadelphia. He it was who gave a short illustrated talk on bees when the National convention met there in 1899. It was enjoyed by all. We understand that he expects to give another talk on the same subject at Franklin Institute very soon. There will be a male quartette to sing "The Hum of the Bees in the Apple-Tree Bloom," accompanied by piano, cornet, and two violins. They are good players and singers, as they all belong to the church choir of which Mr. Flower is a member, and they will doubtless make things hum. Mr. Flower expects to have a lot of new slides to show, and very likely some new jokes and stories to help entertain his audience. Mr. Flower knows how to do it, and will be able to give a good entertainment.

MR. L. HIGHBARGER, of Ogle Co., Ill., writes us that during the meeting of the National convention in Chicago last August, he suffered a stroke of paralysis so that he had to leave for his home before the close of the meeting. It left his nervous system in bad condition, especially affecting his eyes, so that it is very difficult for him either to read or write. He was 73 years old last New Year's day. All will unite in hoping that he may soon recover. He reports his bees as wintering well.

REV. A. B. METTLER, of Will Co., Ill., whose questions were answered on page 99, writes us that the only birthday he ever had was Feb. 1, 1844, and that all the February 1sts since that time have been *anniversaries!* That's very good. We will forgive him for the joke, seeing he sent his dollar membership fee for the National Bee-Keepers' Association.

BISHOP WM. A. BILLS, of Salt Lake Co., Utah, wrote us Feb. 15th that bees were a failure in Salt Lake county last year, tho in previous years he had over 350 pounds of honey per colony. He sent us two clippings about bee-keeping in Uintah Co., Utah, mentioning one firm of bee-keepers who had 160 colonies of golden Italian bees that averaged 331¼ pounds per colony last season. Ashley Valley, in which is located this bee-keepers' paradise, is about 20 miles long by 6 wide. Vernal, the county seat, is a busy little city, and is centrally located in this valley. It is a progressive town, with neatly-graded streets, paved sidewalks, and well-equipt business-houses. In the matter of taxes it stands as a model. It has never levied what is known as a town tax, and is absolutely free from debt, with a balance in the treasury. Very likely they are not curst with saloons.

Bee-keeping seems to be a new industry in Ashley Valley, but it is making astonishing strides, and one that promises to forge still further ahead in this sterile desert section. The honey-source is principally alfalfa, and the grade produced is of the best. Aside from the local consumption, 340,000 pounds were shipt last season, netting the producers 5 cents per pound. The success which has followed the efforts of bee-keepers in that part of the State is encouraging them to equip their apiaries with the latest appliances, which shows an intelligent grasp of the business. It is a little less than marvelous that so much real sweetness should be found in what was once such a desert-like and forbidding region.

MR. G. GLEYSTEEN, of Sioux Co., Iowa, wrote us as follows Feb. 14th:

"The American Bee Journal is a welcome visitor each week. I could not get along without it. By the way, the wood binder is just the thing. Every subscriber should have one so he can file away the journals each week, and always have them all together, ready for any reference he might want."

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 122.)

Pres. Root—We will now listen to Mr. R. C. Aikin, on the subject of

CO-OPERATIVE ORGANIZATION AMONG BEE-KEEPERS.

To organize is proper, right, and just. Like all else, organized combinations may be powerful for good or evil, according to the inclinations and desires of the organized. Condemn not organization, only its improper use.

Never in the history of the world have there been times of so great organization as at the present. Unions, associations, syndicates, trusts, etc., exist on every side. Were it not for organized business and social affairs, we never would have reacht the heights of luxury, wealth, and power, now enjoyed by the present age. Even the anarchist organizes to break down governmental order. We organize for mutual help in all lines of business, industries, education, religion, and government.

But for what shall the bee-keepers combine? This, our national association, is largely social and scientific, with a little business mixt in now and then, and a mutual protection against unjust financial and moral enemies. So far this is good, but it does not cover, by a long way, the ground it should to help the people where they need it most, in properly distributing our product.

These are days of specialism as well as organization and co-operation. More and more do we become dependent upon one another in all our affairs, as we grow in organized work. How long would our government, the postal system, railroads, churches, schools, and the very many great organizations, stand, if it were not for the co-operation features of those concerned? It is plain common-sense that in these days when specialism is everywhere prevalent, in almost everything, that those who produce our food—wheat, corn, potatoes, butter, eggs, meat, fruits, etc.—there should be *co-operation.*

But what is the great need of the bee-keeper to-day—in what particular direction should he co-operate to obtain best results? Is it on the social side? Surely not. We have social facilities in our organizations here and there, and in our class journals. The crying need of to-day is business co-operation.

Producers bring their wheat and other grain to the elevator; cattle, hogs and sheep to the stock-yards; and fruits to the fruit depot. In every producing locality, the products of that territory find buyers and places to deliver and store the products—facilities for handling. Just take one good look at the facilities everywhere establisht for the accommodation of the principal products, note that if I produce ten bushels of wheat and my neighbor his hundreds or thousands, there is one common price and I can take my ten bushels and sell it and have my check just as quickly and surely as the large producer on hundreds.

Now turn your gaze upon our apicultural products—can you go to town, *any* and *every* town, and *any day*, and there sell your products? You may sell a few pounds or cases to your local dealer, just what he needs for immediate retail. Should you produce more than the half dozen cases or so your grocer wants, and want to get cash out of it, what will you do? Well, ship it to some city market such as Denver, Kansas City, Omaha, Chicago, or other practical market; "consign" it to somebody you do not know, *take all the chances* yourself, get your money when you can in the

"sweet by-and-by," or order honey pusht onto the market, which means to give it away. Looks gloomy, doesn't it?

Honey-producers are so scattered, the product so limited in a given locality, that there is no inducement to put in proper facilities for the handling of the goods. Comb honey is somewhat regular and has a reasonable standing, but extracted, as handled by most producers, must not get out of sight of the producer until it is eaten, for you know he *must "take it back and liquefy it."* While almost every other product can be sold at any and all times, and for spot cash, honey must beg to be taken in dribs!

Tell me, if sugar would go liquid in the grocery, must the manufacturers take it back and regranulate? Is there any other product aside from extracted honey that must remain under the oversight of the producer or manufacturer until consumed? Answer me that, and you may have a little consideration for the custom of "taking back" honey to liquefy. If we must liquefy, then good-by to the industry as a settled business, or extracted honey as a staple. But I am slightly digressing.

Since it is so that the honey product is scattered, produced by littles here and there, it comes that there is no ready market for it locally. True, each producer sells more or less about home; but the trouble is, we who are poor and must realize on our product, and do it quickly, can not wait months to deal out in little dribs a small crop of honey. Those who produce by the littles—a few hundred pounds of honey, a few acres of corn, of apples, wheat, and of such a few bushels; a half dozen hogs, one or two beeves, etc.—such are the masses, and are the people that must and will sell, and just as soon as possible after the product is available. These small producers are said to ruin prices, and the charge is true to a limited extent. But can we blame these people? and after all what can we do? They are at the mercy of the more opulent buyer, or they perhaps must realize, and that quickly, and since there may not be a demand for their product and it is too small to ship to distant points, they are practically compelled to force the market, and the stock sells for less than its real and true value, and so prices are not what they should be.

It is necessary, then, that provision be made whereby, especially the small producer, may have a market for his product. The large producer is told to buy up the little lots and so get them out of the way, but large producers have difficulties to face, too. It does not take many little lots to require several hundreds of dollars—even thousands—to buy them. The large producer has to face the fact that if he competes in the general markets, and with other large producers and shippers, he must produce and ship in carlots, and to do this causes him to reach out to the limit of his own capital and ability. Yes, even the large producers, too, are struggling to keep from being eaten up by the still larger fish.

In these days when our products are transported hundreds and thousands of miles to be distributed—in *reality exchanged* for other products which we have not in our own localities, but which we think we must have, and social conditions almost compel us to have—there *must* be facilities for carrying out the exchange economically.

Look again at the immensity of the systems of transportation of products. The packing companies have their special cars. Then there are the fruit-cars specially designed to transport fruits and deliver them successfully at distant points; and grain, sheep and cattle cars. Not only this, but everywhere distributed thruout the country are both the gathering and distributing facilities. The large cities have their commission-houses with a side honey department, but what of it? Small producers, 500 or 1,000 miles from these places, do not want to consign. They can not afford the local freights and other expenses. The 10 or 20 cases of comb honey of the small producer, mean more to him than do the hundreds of cases of the large producers and commission and other dealers to them. These small producers have honey to *sell*, and *must sell*.

What we want, then, most of all, is the facilities for gathering the product and relieving the poor small producer by paying him for his honey and wax. These facilities must reach out from some central place and come close enough to the little apiaries so that their product can be delivered to the buyer with the very minimum of railroad freights. That such system is *very* much needed is surely evident, but as yet the solution of the difficulty is not clear. Many difficulties lie in the way, yet none but can be overcome.

I shall not attempt to lay down set rules to govern in working out this question, it can come only by *co-operation*. I say by co-operation, but not by it pure and simple, according to the general acceptance of the term. I think I know enough of human nature to know that this Association can not in open convention work out such problems and carry them to completion. We have ideas as to what we need, but how to obtain the results we do not know, each guessing at what is needed and advising, yet there will be such diversity of opinions that no tangible thing can be arrived at. Your humble servant has been thru the mill and knows a few of the difficulties to contend with, how a convention will wrangle, and suggest, and advise, and demand, etc., then in the end tell a committee to go ahead and bring order out of chaos, yet not a dollar for the expense of doing it.

Discussion in convention is all right, and appointing committees is all right, but committees need *financial* help. Select for the committees straight, honest men—men who are the most familiar with the business world and methods, who have the facilities to obtain information and results. Remember that we must do much as we *can*, not as we like. We want to put our product as near where it ought to be as possible, but in doing this we have great difficulties to surmount.

Having selected proper organizing committees and given them necessary funds to carry on the work, empower them to act—I would say almost absolute power. When your committee runs against unforeseen stumps they can not wait for another annual meeting to get instructions how to pull up or get around that stump. They must act, so give them full power. Here is the weak place—the people can not or will not see the great difficulties in the way, get discouraged, or jealous, or fault-finding.

In organizing, remember that there are State and other laws to comply with, there are business customs that you can not ignore, that others have rights as well as you, and that your purpose is not to set arbitrary prices and make extravagant demands. You want to get in touch with the whole world so far as possible, for in these days even oceans do not separate neighbors and co-operators. Strive to understand each other. Help others and thereby help self. Two, three, or more, producers should sell together. Do not think for one minute that there is or can be over-production—no, never, while our neighbors just across the waters are starving by the millions.

When the bee-keepers are fully organized in a co-operative way, the head national office will know what you and I are doing, north, east, south, and west. The sub-State offices will know what is known at the general head, and in turn transmit to the various local branches or to the individual members. Tho there is never over-production, there is lack of *distribution*. Let us then co-operate that we may every one of us know what the crop is in every part of our land. Let the distribution be equal, and the prices proportionate according to supply and demand.

Is it a mighty undertaking? Yes, but results would be mighty. Will it harm anybody? Yes, just about as you are harmed by the complete postal system that takes in almost the world and carries your mail almost for nothing.

Do you catch the spirit? Then proceed to co-operate. Some are now at it, but hampered by the utter indifference, jealousies, or greed, of the many. To help a brother helps you; to tear him down destroys both. R. C. AIKIN.

Pres. Root—The matter is now open for discussion. Mr. Aikin comes from a State where they have an organization that carried out some of the ideas he has advanced here. They are not merely theoretical, but they are put in practice and do produce results. Many of you probably have not had any experience in this line and possibly do not care to discuss it.

Pres. Root—Dr. Mason has a matter that he wishes to bring up before the Convention before we close. Are you ready to present it at this time?

(Continued next week.)

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

The Premiums offered this week are well worth working for. Look at them.

Contributed Articles.

Pure Italian Bees—Old or Young Bees in the Super—Swarming.

BY G. M. DOOLITTLE.

A CORRESPONDENT sends in some questions and wishes me to answer them thru the columns of the American Bee Journal. His first question is, "Can a five-banded queen be bred—or a queen whose bees are five-banded—from pure Italian queens?"

I unhesitatingly answer no, for the simple reason that there is no such thing as a *pure* Italian bee or queen, when viewed in the sense of a pure race or variety, as the German or black bee is pure. At best, the Italian bee is only a thorobred; and that these five-banded bees have been produced from what was originally only three-banded or leather-colored bees, is a good proof that the above assertion is correct.

Perhaps it may be well for me to give right here a bit of history relative to these so-called five-banded bees—the "golden Italian" more nearly expresses what they are, for there are many queens in this country to-day which give bees whose abdomens are a solid golden or orange yellow the whole length, except the tip; no bands whatever to be seen as on three and four-banded stock. The history is this:

In the early seventies, H. A. King, then of Ohio, and Jas. M. Brooks, of Indiana, were breeding for yellower bees than the average importations of Italians showed. In 1872 I procured some of Mr. King's stock, and continued to improve them them till near the eighties, the apicultural world having lost sight of Mr. King, meanwhile. At that time, by exchange, I procured queens of Mr. Brooks, and afterward, by purchase, got the last of his very best stock, he going out of the business. In the early eighties I sold one of the best queens I could rear, along the yellow line, to L. L. Hearn, then of West Virginia, he and myself exchanging more or less for the next ten years. And, if I am correct, all of the so-called five-banded bees, of *Italian origin*, that are in the world to-day, spring from the King-Brooks stock. Others produced the so-called five-banded bees by a promiscuous crossing of Cyprian, Syrian and Italian stock, but such have shown their origin by their bad qualities, to a greater degree than either parentage.

OLD OR YOUNG BEES WORKING IN THE SUPER.

The second question is, "Is it the old or young bees that work in the surplus arrangement? I had supposed it was the younger bees, but a neighbor contends that it is the old bees."

Tell that neighbor of yours, if he will try the experiment of changing a black queen for an Italian about June 20th, some year, noting the time the first Italian bee hatches, and on the forenoon of the 14th day from that time look at the entrance of the hive, he will find none but black bees issuing therefrom: while if he removes the cover from the surplus arrangement he will find nearly all of the bees there to be Italian. If he does not so find, his experiment will prove different from any I have ever tried, and I have tried such experiments several times.

When a colony is in a normal condition, I have found what Elisha Gallup gave in the American Bee Journal during the early seventies, to be quite correct, namely this:

Three days in the egg form, six days in the larval form, and 12 days in the pupa form, making a period of 21 days from the egg to the perfect bee. Very warm weather will hasten the matter, while very cool will retard. The bee when it first emerges from the cell does nothing but feed itself for the first day or two, when it commences to become a nurse-bee, preparing chyme for the larvæ, evaporating nectar, secreting wax, building comb, etc., till it is 14 to 16 days old. The young bee takes its first flight or playspell, marking its location, voiding its excrement, etc., when six days old, if the weather is favorable, doing this from 12 to 3 p. m., and it continues these playspells occasionally till it is from 14 to 16 days old, when it goes out into the fields as a field-worker, doing no more of the inside work of the hive after becoming a field-worker, unless forced to by a lack of nurse-bees, from some reason, and dies of old age at from six to eight weeks from time of emerging from its cell, very few bees ever seeing seven weeks of age during the working season.

In the above I have not given the exact wording of Mr. Gallup, but the substance, as I quote from memory, not having the volume in which it appeared. No beginner, or older apiarist, should be without the knowledge contained in the above, for upon it hangs much that goes toward making the management of an apiary successful.

OLD OR YOUNG BEES IN A NEW SWARM.

Thirdly, the correspondent wants to know if the "bees composing a new swarm are all old bees," his neighbor claiming they are.

The truth is, that bees of all ages go out to make up the swarm, as is very easily ascertained by any one who will use his eyes with the view of finding out about this matter. I have seen the ground in front of a hive from which a prime swarm was issuing, covered with hundreds of bees under 12 hours old, which tried to accompany the swarm, but were not able to fly, so they went out on foot; and on hiving the swarm, a little inspection showed that it was composed of bees of all ages, from those 20 hours old, or bees just barely able to fly, to those with ragged wings, just ready to die of old age. In this, as in all nature, God made no mistake, when he showed bees how those of all ages should accompany the swarm, when they heeded the mandate, "Go forth, multiply, and replenish the earth."

By a careful observation of the bees and the inside workings of the hive, we can solve many of what seem difficult problems to us at first. And in the solving of these problems, we are growing up into our apicultural work in a manner that will make us finally efficient in every particular.

Onondaga Co., N. Y.

Shipping Queens by Mail—Unusual Experience.

BY O. O. POPPLETON.

ONE is very apt to give a wrong impression whenever he allows himself to make a simple statement without giving an explanation or reasons for that statement. This was especially true of the statement I made during the late Chicago convention, while the question of shipping queens by mail was being discust—that I had "abandoned the ordering of queens by mail." Of course, the inference was that the mails were responsible for the poor quality of the most of my queens obtained that way, which was only true to a limited extent.

For some reason which I can not explain, I have failed in getting even a fair proportion of queens that would do well. This applies only to the queens I have received since I came South—not to those received when I lived in Iowa. The fact that 15 or 20 years ago I could get queens that proved first-class ones, and can not do it since coming south, looks as tho there were some other reason than injury by mailing. I have had queens from breeders in the North, in the central Southern States, and in the extreme Southern, and the results seem to be the same. I wish some one could tell me the reason why queens do not do as well here as they used to do in the North. I don't mean that the queens seemingly reach me in poorer condition, but that they prove much poorer for real business.

Another, and probably my strongest reason for not ordering queens from a distance, is the fact that fully one-half of the colonies which have been given these queens have developt bee-paralysis. These queens all have been from the ablest and most experienced queen-breeders in the United States, and men against whom there can not be the least suspicion of having knowingly sent out diseased stock. This is another one of the unexplainable things, especially so, as I do not know of any one else having the same experience. I have had practically to rid my apiary of all stock obtained from a distance, and their descendants.

The last few years I kept bees in Iowa, there were few things I did in the apiary that gave me better satisfaction than did the use of early queens from the South. I used to use from 25 to 50 every season. I could not only get them cheaper during the first half of June, than I could possibly rear them, but the getting them earlier than I could well rear them enabled me to use them at a decided profit. My general method of management was to prevent swarming as much as possible (usually keeping it down to 5 percent or less), thus keeping most of my colonies large and strong during the entire honey season. Increase was secured by taking nuclei from the strongest colonies early in June—

usually before the white clover honey-flow commenced—giving them these queens from the South. These nuclei thus given laying queens so much earlier than I could rear queens myself, would do enough better more than to pay first cost of the queens, be in better condition for the coming winter, and save me all the labor and expense of rearing extra early queens. No practical honey-producer in the North needs to be told what this means.

I observed closely for years, and could detect little or no difference between the quality of these queens and those of my own rearing, some of them proving among the best queens I ever owned. Were I now keeping bees any where in the North, I should make a very large use of early queens from the South. I should, of course, get them from as able and careful breeders as I could, and I don't think I should have any special fears of injury to queens in the mail.

Why queens would reach me all right when I was in Iowa, and don't do so in Florida, is one of the unexplained mysteries of bee-keeping. I only know the facts, not the reasons therefor. Perhaps some of the readers of the American Bee Journal can give us more light.

Dade Co., Fla.

No. 2.—Bee-Shed of Mr. F. M. Wagner, of Adams Co., Ill.
See page 131.

No. 13.—Interesting Notes on European Travel.

BY C. P. DADANT.

I HAVE well-nigh exhausted my subject, unless I take you on the ocean with me, or unless I take you to the place of my birth and make you acquainted with the companions of my young days, and show you in detail the narrow, winding streets of the old city, or the lonely rampart walls. You would wonder at the lack of life in their business streets, but would admire the whiteness of the houses, where coal smoke is unknown. You would wonder at the numbers of roaming dogs, at the habit the people have of walking in the middle of the street, owing to lack of room on the sidewalk where two people can not pass each other without one of them having to step off into the gutter.

In bee-culture you would see but little of interest, and yet we could not very well do without Europe and European bee-keepers. Did they not originally invent the movable frames, which Langstroth only made more practical by hanging them free from the inner walls all around? Did they not invent the first rudiments of comb foundation? Did they not give us the honey-extractor? the perforated zinc? Do they not, from time to time, give us the most interesting scientific experiments? The microscopic studies of Count Barbo, of Milan, made into 32 lithographs some 25 years ago, are yet at the head in the way of plain descriptions of the anatomical structure of the bee. But for practice, for production on a large scale, with the most economical results, give us America.

But it is strange to see the very deep ignorance of the masses concerning America, on the Old Continent. Somehow they have a very clear idea that we are all millionaires, all Vanderbilts, Goulds, or Rockefellers, but they can hardly separate our millionaires from the Indians and the buffaloes. To them the United States is a country full of machinery and wealth, and yet half savage. The geography of the new continent is one of the things to come. They have a faint idea of the location of Chicago—somewhere near New York, or on the big Salt Lake. After two months of travel I had to give up the idea of enlightening any one as to where I lived by saying "in Illinois." So I had become accustomed to using the term, "On the Mississippi." Once while traveling thru England I met a gentleman, who, after I had given him that answer, said, "Oh, very well. Do you live above Niagara Falls or below?" That is about the extent of the knowledge that most of my French acquaintances could show of the geography of the United States. Yet they are all very well acquainted with countries that seem to us rather remote. Africa, Madagascar, Siam, and China, seem to be very familiar. But those places have not built up as America did, and what answered in their geography 50 years ago is still about right at this day, while the growth of America makes a new map necessary every 10 years.

A reader of the American Bee Journal puts this question to me: "How would you like to go back to Europe to live?" Not at all. America is the country for me. I should like to re-visit the places I saw—I admire the beauties of the European cities, of their buildings, which are certainly more artistic and in better taste than our plain, square brick boxes, which we call business houses or factories. They do not have a 20-story sky-scraper by the side of an ugly 3-story square brick house as we do here; and around their monuments it seems as if a part of the ornaments had been lavisht on all the surrounding buildings. This is true of either London or Paris. But give me America for pluck and enterprise. Give me America for a neat farm-house, with a good barn far enough from it to keep the pigs and the manure smell out of the front yard. Here we have no peasants and there is an opportunity for every one.

America, in my mind, has been made what she is by her cosmopolitan condition. She draws from everywhere. All languages are hers. All nations join here, and each brings the knowledge and the views from his own. The Dane and the Spanish, the Italian and the English, the French and the German, all bring their customs, their habits, and from the friction of all these elements light is evolved. America is especially prone to adapt herself to all sorts of things. Nothing is good enough for her if something better is to be had, and altho we must acknowledge that the first results of

No. 1.—Bee-Shed of Mr. F. M. Wagner, of Adams Co., Ill.
See page 131.

this mixture of so many things are many incogruities, yet the general good is sure to come from the apparent chaos. It matters not whether a thing is English or German, or French, if it is good it is accepted here; while a good thing, over there, will not be acceptable if it comes from antipathic sources. "We have always done this way" is a very usual reply.

And not France alone is slow to take a proposed progress. The Anglo Saxons, who would have us think that they lead in every sort of progress, have strenuously opposed the introduction of the metric system, or of the decimal system in their money, because it was not decidedly English, no doubt, and they stick to their shillings and pennies and yards and pennyweights, while America bravely accepted the metric system, just because she saw that it was good. Visit an American farmer, then stay away 10 years and when you come back none of his implements of cultivation will be the same as 10 years before. He has outprogrest them all.

Even our new spelling reform shows that we are not content to remain stationary. I lately bought a new book, "Newest England," which treats of New Zealand and the wonderful reforms they are making there, faithfully trying co-operation, government ownership, and enough different forms of socialism to scare any conservative. Well, the writer of this book, who seems to love progress, still uses the English spelling—"valour, labour, neighbour, fervour, favourable, plough." If we have dropt the useless letters in so many words, why fall back—why not keep on improving? Or had we best go backwards and write "myrrour" for "mirror?"

But if the Europeans are slow to take hold, there is room for improvement here, too. The country is new and we try to go fast—too fast in some things. Our structures are often flimsy, our bridges insecure. Our roads are horrible, our architecture a salmagundi of all ages and styles. With our excellent railroad coaches, we have the most inefficient and expensive transportation. Our express companies "skin" us to the quick. We need parcel posts such as in Europe. While passing thru Paris, when first arriving in Europe, we had to give out some linen to wash, but could not get it back in time for our departure for the country. "I will send it to you by parcel-post," said the laundry-woman. "What, twenty pounds of linen?" "Why, yes, it will cost you 16 cents." And, sure enough, we received our linen, by mail, 20 miles away, for something less than a cent a pound.

While in Switzerland, a friend loaned me an umbrella, to go some miles in the rain. I askt how I could return it to him. "Oh, by mail." "By mail!" "Yes, it will cost you four cents."

How many of my readers know that we can send a half pound of samples of merchandise to any point in the Postal Union for half as much as it will cost to send the same package to our nearest post-office? Half a pound can be sent to the other side of the earth, or to the Fiji Islands, for four cents, while it will cost eight cents to send it to the post-office next to your own, in your own county. Yes, yes, America can learn something yet.

The Long-Tongued Fallacy as Applied to Bees.

BY R. C. HUGENTOBLER.

ADMITTING that long tongues in one species of animal life can do wonders in extracting sweetness, and carrying it to their homes to be evaporated so as to make it more palatable to those who are fond of this sort of luxury, I am still extremely slow in applying this principle to Apis mellifica. It has been argued with much show of reason that the enormous yields of certain colonies of bees over all others, is attributable to their longer reach of tongue. The micrometer has argued long and eloquently in support of this theory, and the honeyed jury (I dare not say jurymen) have been deeply moved by the long tongue of counsel, and are actually measuring tongues with one another! It is not yet decided *which* has the longest tongue.

In order to defend the above theory successfully, it will be necessary, in comparing the results of labor, to have the short and the long tongues engaged on a flower whose chalices refuse to yield up any or all of the coveted treasure to the short tongues, and willingly bestow it upon the long ones.

In the summer of 1897, when the hills overlooking our town were robed in white, and guests by thousands sat down to the banquet of the flowers amid a glorious burst of harmony, and drank the health of the same, I had one colony that gathered 140 pounds of nectar, choice enough for the gods. The average per colony of my entire apiary was 50 pounds. Was the large amount gathered by one colony due to long tongues? I answer no. Can not all honey-bees drain the chalices of white and sweet clover? And even if they could not drain the sparkling cups emitting inviting odors, what time be lost in such a sea of flowers? What need of cistern-pole when full unto the neck?

Again, in 1899 I had two colonies which gathered 100 pounds—double the amount stored by any of the balance of the apiary. That year,

> Smiling May, she promist me that I might smack my lips;
> But later on grew cold toward me, as love to hate oft skips;
> And finally, with back to me, as she was going out,
> "I'll back again next season when time signals thee to rout."
> So, sore disheartened then was I;
> But when May's sister came along,
> She sang me her sweet-clover song
> Which pleased my ear and filled mine eye
> With joydrops for another year,
> Until sweet June should reappear.

So melting poetry to prose, we had a fine flow of nectar from a 20-acre field, 1¼ miles to the north, which had been furrowed by a flood and planted by that ready occupant—sweet clover. Learn of him thy opportunity to watch, and hold on with his might. He, an ardent lover of thin soil, sent his servants on weighty errands after treasure deeply hidden; which, when found and carried up, did intoxicate with delight my teeming kingdoms which, when frowning cloud and wind bore down on them, *en masse* came sailing on low down, till at flood-tide, they filled the main street of our town, scarce over my low head! Fair sight! Well worth a poet's eye!

We conclude then, that the superiority of one colony over many others in amount of nectar gathered, is due, not to the superiority of organs employed, but to superior industry which characterizes not only families and individuals in the lower kingdom of animal life, but families and individuals in the higher as well; and to argue that, in white clover and sweet-clover flows extending over periods of five weeks and three weeks, respectively, a particular colony manifested superior results in amount of labor performed because of a superior organ in its individuals, would be manifestly an error. Let us remember in breeding for long tongues to gather a doubtful amount of red-clover nectar (for the meager results from the bumble-bee indicate no purple goblets filled), that the characteristic energy of colonies is not dependent upon long tongues, tho they may accompany them. Nature, it seems, in the providence of God, has placed an apparently insurmountable barrier between Apis mellifica and the sparkling nectar in the rosy chalice, which, if overcome by the ingenuity of man, would doubtless yield some nectar, but, taking all things into consideration, be undesirable to all.

Hamilton Co., Ohio.

Cuban Bee-Experiences—Honey and Wax.

BY GEO. ROCKENBAUGH.

THE rain has been coming down in torrents all day, making one feel like doing something desperate, but instead I came up here on the peaceful mission of writing to the "Old Reliable."

April 10, 1900, I thought I was going to leave Cuba for good, never to see my bees again. I was the most disappointed bee-keeper that ever struck this island, as it was no trifle to lose 475 colonies all in 10-frame hives with two supers on each, and each colony containing a young queen. When I first began to work this apiary some of the hives were rotten with what I pronounced foul brood, as some of the bees were shipt here from Havana city. But I do not now think that it is foul brood, as I tried the McEvoy plan but made a failure of it. Some of the native bee-keepers pronounce it chilled brood, pickled brood and bald-headed brood, caused by pollen that is poisonous to the brood.

Every colony that I have is very badly affected with paralysis, which is probably also caused by that same poisonous pollen, as their abdomens are swelled, and they act as they would in a bad case of constipation. I have tried many remedies, but none proved of any avail.

When I arrived here the second time—Oct. 15th—there were only 170 colonies left, the others having swarmed out, and the hives were badly cut inside with moths. I have extracted about 16,000 pounds of honey up to this time.

I have not been at all successful here in rearing queens on the Doolittle plan.

In Gleanings in Bee-Culture, T. Smith says that Editor Pender, of Australia, gives his experiments, and claims that 4 pounds of honey will produce one pound of wax. What a foolish thing to put into type, and how unreliable the statements are. I claim to be one of the sugar-honey experts of the United States, and I will give a more reliable statement as to how many pounds of sugar is required to secrete one pound of wax. I have written the following rule which can be relied upon as very nearly correct, according to my knowledge and judgment.

Twenty-four cubic inches of comb will hold one pound of honey, and one pound of comb honey contains one ounce of wax; therefore one pound of secreted scales turned into comb will hold 16 pounds of honey.

Now I am going to contradict myself right here, but let me digress a little. I don't know how it is, but it is a fact that it requires 3 pounds of sugar to produce one pound of comb honey. I have had good, strong colonies that have been fed with sugar syrup from June 10th to Sept. 10th—a Heddon feeder kept full at all times—yet I could never make the best colonies store much over 200 pounds of comb honey each.

Bees that are good comb-builders require about 12 pounds of honey to make 1 pound of wax, and I have had bees that were supposed to be poor comb-builders that required 16 pounds of honey to make 1 pound of wax.

From the foregoing one can readily see that producing sugar-honey, or feeding "any old thing" to produce wax, does not pay. Cuba, Jan. 15.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Saccharin as Bee-Feed.

Some time ago I saw some remarks about saccharin as a bee-feed. Is it any cheaper than sugar for bee-feed? or is it injurious to bees? Where can it be obtained?

INDIANA.

ANSWER.—Saccharin is said to be 300 times sweeter than cane-sugar, but I think you will find a dollar's worth of granulated sugar better than a dollar's worth of saccharin for the bees. You can probably get it of your druggist. It will cost you something like 300 times as much as sugar, and while you may have as much sweetness in a pound of it as in 300 pounds of sugar, you would by no means have the same amount of nourishment. The amount of carbon would not be present.

A Colony Taken From a Bee-Tree.

I found a bee-tree last fall rather late in the season, and I didn't like to cut it, but I was afraid some one else might come along and not think the same as I did. So the next day I went to work at it. I didn't think it would amount to very much, but I was after the bees, so after I cut the tree I got the hive ready to put in the bees. I was very careful about the work. The colony didn't seem to be very large, but after I had an opening big enough to look in, I was very much surprised. In place of the hive, I had to get two wash-tubs and a pail. Such a sight—nothing but honey, and yet plenty of bees also.

After I had all the honey out, I started to coax in the bees, but they wouldn't come. I had an 8-frame hive full of honey. I got them in once, all but a handful. I thought perhaps the queen was among them, but I could not find her there, and they all came out again. By evening, when it got a little cool, they took up a march to the hive once more, and very nearly all went in. Some got under the log.

I left the hive until the next morning, when I went back to look after the bees. When I got there they just started to come out, but I closed up the entrance and took them home, and placed them along side of my other bees, and opened the entrance again. They started to fly just as fast as they could get out, for about two minutes, then they stopt. There were plenty of bees there yet, so I sat down and watcht them. Pretty soon, to my great surprise, I saw some of the bees coming back with pollen on their legs.

Now, what I want to get at is this: Do you think the queen is there? Why should they carry pollen, and not my other bees? If they have nó queen, will it do to let them out all winter? They seem more noisy than my other bees.

ILLINOIS.

ANSWER.—Very likely the queen is all right. In any case it is best not to disturb them till spring. Then when bees fly freely, and you find brood in other hives, you can decide whether the queen is present by looking whether there is any brood. If no brood is present it may be your best plan to unite it with one of your weakest colonies that has a queen.

Spacing Hives—Spring Feeding.

1. Is four feet from center to center too close for the hives in the row?

2. Will feeding bees when they are flying early in the spring give satisfaction? If not, why? ONTARIO.

ANSWER.—1. No; but here is something a little better that will allow more hives on the same ground. Set two hives side by side, with only two or three inches between them. Then leave a space of three or four feet and put another pair of hives close together, and so on. If you place a number of hives with only a few inches between them, there will be trouble about entering the wrong hives, but there will be no trouble when only two hives are placed close together.

2. Properly managed and under proper conditions it may give satisfaction. If weather is warm enough for bees to fly daily, and there is nothing they can get in the fields, the feeding may be a decided benefit. If the weather is somewhat chilly, so the bees do not fly freely, altho flying to some extent, feeding may induce the bees to fly out and become chilled.

Ventilating the Supers.

I have been keeping bees for six years—just playing at it while in the ministry, and so keep only a few colonies. I am wintering 8 colonies, using dovetailed Langstroth 10-frame hives with Hoffman frames. I appreciate your answers to others very much, and so will ask one or two myself.

If a hole were bored in the end of a super with wire-cloth tackt over it—

1. Would the ventilation be helpful or harmful?
2. Would light entering in be helpful or harmful?
3. Would you advise boring a hole there?
4. If advisable to have a hole there, how large should it be? ILLINOIS.

ANSWERS.—1. I don't know.

2. I don't know.

3 and 4.—I would not advise it.

Now that I've answered all your questions, suppose we sit down and talk over the matter a little. Allow me first, by way of parenthesis, to congratulate you on your good judgment in choosing something so interesting to "play at" while *working* in the ministry. It seems just a little strange that there is so much difference between this country and Europe as to the proportion of the clergy engaged in bee-keeping. In Germany, especially, a very large number of leading bee-keepers are clergymen or professors and teachers in schools and colleges. When I say "leading bee-keepers" it does not necessarily follow that they devote their time mainly to bee-keeping, nor that they keep a large number of bees. But in their moments of leisure they give earnest attention to the subject, and are among those who have added most to our stock of knowledge on this most interesting subject. Father Langstroth, who brought about an entire revolution in bee-keeping, belonged to the clergy. So does Dr. Dzierzon, who has done more than any man living to advance bee-keeping.

But now to our subject. At one time I was on a visit to Adam Grimm, who was one of the leading apicultura lights up to the time of his death. He was putting on sur plus boxes (it was before the day of sections), and when he put the hive-cover over the boxes he propt up the back end of the cover something like an inch. As he was propping up one of the covers, he lookt up and said in his earnest

way, "I consider that very important." Mr. Grimm did not tell why he thought it important, and I think I didn't know enough to ask him. But I thought he was a safe man to follow, and as I adopted sections very shortly after that time, using double-tier wide frames with 56 sections in a super, I provided an opening as nearly like Mr. Grimm's as I could by shoving the super forward so as to make a space of one-fourth to one-half an inch at the back.

This workt quite satisfactorily, but a super with 56 sections was very heavy, and on some other accounts I was led to change to the T super, which I now use. With this I still kept the opening at the back by shoving the super forward. A difficulty that I had before noticed to some extent seemed now to be aggravated. The sections next the opening proceeded very slowly compared with the others. The opening to the outer air at this point prevented the bees from building comb to a considerable extent. So I gave up this opening, closing the hive entirely above, relying only on the ventilation from below.

After this change, however, the amount of swarming increast a great deal, making it look as if the ventilation right thru the hive had a good deal to do with keeping down swarming. Another thing helps greatly to strengthen that belief. For years I have generally had a few colonies that were allowed to have three or more stories, with a large opening to each story, the combs being used for extracting, or kept as store-combs. I do not remember that one of these colonies ever swarmed, and I attribute this immunity from swarming in a great measure to the large amount of ventilation.

In the light of all this, it would look as if it would be a good thing to have the ventilation you propose, providing you are working for extracted honey, the air and the light not being objectionable. With comb honey the hindrance to comb-building stands in the way. Wire-cloth over a ventilating hole is not needed, and the bees will be pretty sure to fill it up with bee-glue. It is hardly advisable to bore a hole in any case, for you can get better effects by shoving the super front or back. That distributes the ventilation, instead of having it all at one spot with the hole.

Questions on Swarming.

In your book, "A Year Among the Bees," which I bought of you in the spring of 1887, you say on page 49, "When it comes time to put on supers, they (brood-frames) are reduced to 4 or 5 frames."

1. Do you still practice this contraction of the brood-chamber *before* swarming?

2. When a colony swarms do you hive the swarm in a contracted brood-chamber?

3. And if contracted or not, do you use starters or full sheets of foundation in brood-chamber?

NEW YORK.

ANSWERS.—1. Alas for the changeableness of bee-keeping—it is not safe to count on doing anything to-day the same as 15 years ago. Strictly speaking, I do not practice contraction now. Up to the time of putting on supers I give all the room needed for brood-rearing, even to two stories of 8 frames each, if the bees will use it. At the time of putting on supers I take away all but 8 of the best frames of brood, if the colony has more, and give it enough to make 8 if it has less. Some would say that is contracting, and some would say it is exchanging room in the super for room below. At any rate, my practice is to have each colony have 8 frames of brood at the time of putting on supers.

2. If I were hiving a swarm, I would give it four or five frames at hiving, and fill up about 10 days later.

3. I always use full sheets of foundation. I might do otherwise were it not for just one thing, and that is that I want to be sure of all worker-comb. One of the ablest of German bee-keepers, the late C. J. H. Gravenhorst, practiced giving a swarm four or five frames with narrow starters, counting that very little drone-comb would be built in hem, and when they were filled giving enough combs or full sheets of foundation to fill out the hive.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

The Afterthought.

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

THE BEE KEEPER AND THE BEE-SUPPLY DEALER.

In "Colorado's" letter and its replies, on pages 69 and 70, we have a first-class rumpus, albeit by no means a new one, and not likely to become a closed incident very soon. How much human nature we can see in man when we get him in print once! Man who doesn't like a situation seldom fully appreciated by the man who does like it. Just hear the latter fellow's replies pop off—as he talks of buying a car-load of supplies "sight unseen," and a thousand miles off. "Not so bad off as he imagines." "Do not consider the dilemma of our Colorado friend a serious one." "Very little trouble in getting or giving satisfaction." Ahem! And, in good sooth, if the fellow is plump and candid enough, we rather like him, at least to the extent of a good laugh. "Why should I contribute to make it perfectly safe for my customers to order of my competitor? If I have given them satisfaction, and no cause to complain, let them keep on buying of me." And when we get reminded that much of the trouble arises from our own too fierce cheapening of everything we would do well to stop and consider—yes, do a large amount of considering. First a pinch of "live" and then a pinch of "let live" should go in the peace-pipe which we are to smoke. The two little girls who *never* quarreled reported their secret to be, "Addie lets me and I let Addie." But, as to the manufacturing Addie, we don't quite see our way clear to "let Addie" while she is in her present frame of mind. For one thing she doesn't realize what a prodigious lot of mistakes—some annoying, some expensive, some both, but *not entirety spoiling the goods*—go out to her absent customers. I take it that part of these are scolded about a little, and salved over by a little apology, and the larger part never mentioned at all. Never mentioned because few of us enjoy making complaints, when we know in advance that they will never eventuate in anything except talk. A present-at-the-factory customer would say: "Fix this and this, and I'll take a thousand: otherwise I'll not touch 'em with a pole."

Remedy? Not sure there is any. The Falconer proposition seems the best mentioned. Pay half, and deposit the other half to be paid on satisfaction being reacht. How would it do to employ some bee-man who lives within 25 miles of the factory to go and see your car-load of supplies on board? He couldn't see with your eyes nor feel with your feelings, as to faults mainly annoying or ill looking, but not seriously affecting the utility of the goods.

A TRICK THE BEES PLAYED.

That trick which Mr. Bauckman's bees played, page 60, was a very unusual one. It is unusual for a swarm to plunder the home hive, and again unusual for a plundered hive to survive and amount to something later on.

KEEPING BEES ON SHARES.

Yes, that's so; the man who is keeping your bees on shares can not be dismist very well if unsatisfactory. Also, if the season proves so bad as to afford no hope of anything to divide, he might take himself off without saying a word. You think your bees have a keeper when they are totally neglected. Page 66.

SO UNUTTERABLY UTTERED, YOU KNOW.

The Utter case being so "utterly utter," and all that's fairly utterable being already uttered, I think I'll skip it, and forbear to utter. (Oft thusly our bread findeth butter).

THAT GERMAN UNCAPPING FORK.

So Mr. Kreutzinger has an uncapping fork—but does not tell his editorial visitor whether he has ever "made it go" or no. Suspicious circumstance. Motors that never "mote" are not as a class a very hopeful class. Perchance the uncapping fork may be the idea of that kind of amateur who wants to lift off the cappings without taking *any* of the honey—and the amount of time it takes to do it may not appeal to his mind very strongly. Page 68.

GENERAL ITEMS

Good Prospects for a Crop.

My bees are wintering very nicely. They had a good flight Jan. 20th, and prospects are good for a crop of honey this year. I do not think white clover has been damaged any this year. G. GLEYSTEEN.

Sioux Co., Iowa, Feb. 14.

Worms Destroying Alfalfa.

Bees are in fine condition. They bred up strong in October, so with plenty of first-class stores I expect them to come out all right in the spring. They did remarkably well last season after July, but almost nothing earlier. Worms took most of the first crop of alfalfa; I am told that these worms drove at least one family away from their home, crawling up the north side of their dwelling until they were two inches thick on the roof.

Our Colorado people are as much down on sweet clover as I was some years ago when I wrote it *down* in the American Bee Journal, and got a good drubbing for so doing. I am going to plant two pounds of it on my own land, "just for greens," and chance it. Some of our cattle men say if I do I will rue it.

The bee-industry in this country is in its infancy, tho I understand there are about 4,000 colonies of bees in the county. About a half dozen people own from 50 to 350 colonies each, and the balance are scattered mostly among people who are "just experimenting."

The prospects for the future are very bright indeed.

We have lately organized as the "Lamar, Colo., Bee-Keepers' Association," of which your humble servant has the honor to be corresponding secretary. JAMES H. WING.

Prowers Co., Colo., Jan. 18.

P. S.—Poganuc (Tarlox) got back from Alaska in September, and says he found bumble-bees, also mason, carpenter, and tailor bees, 40 miles above the Arctic Circle.

J. H. W.

Bee-Keeping in Clarke Co., Wash.

Mr. G. W. Durkee, of Wisconsin, a reader of the American Bee Journal, has sent me a letter with inquiries regarding bee-keeping in this part of the State of Washington, and thinking that there may be other readers likewise interested, I beg to answer Mr. Durkee thru this medium. The questions are as follows:

1. Are you located near the Columbia River? From what does your main honey-supply come?
2. Do you have basswood, white clover, sweet clover, and honey-dew?
3. What is your average surplus per colony in a fair season?
4. What does honey sell for?
5. How do you winter your bees?
6. What do sections and foundation cost out there?
7. What are bees worth per colony?
8. Is there any opening for a bee-keeper in Clarke County? G. W. DURKEE.

ANSWERS.—1. Yes, on the edge of the highland joining the lowlands along the river. White clover, fire-weed, and Spanish-needle furnish the main part of the surplus honey, in the order named.

2. We have no basswood and sweet clover, but once in a great while we get some honey-dew, very rank in flavor. But in average winters this stuff is all right for stores, as bees here are seldom prevented from having a *good* flight for more than a couple of weeks at a time.

3. This question I am unable to answer further than what I have stated in my reports in this paper.

4. Look up the market quotations in this paper for San Francisco, and add to those prices about one cent for comb and one-half cent for extracted honey, and you will come very near the prices that honey sells for at wholesale in Portland, Oreg. Of course, if you are not your own salesman you will have to deduct freight, commission, breakage, etc., to get the net prices realized by the producer.

5. I winter the bees in one-story single-walled hives. I put two sticks $\frac{3}{4}$x$\frac{3}{4}$x11 inches crosswise on the top of the frames, then a burlap hive-cloth, and one-half dozen double sheets of newspapers and the flat hive-cover, and on top of this the shade-board to keep off the rain. In the coldest part of winter I leave the whole entrance $\frac{3}{8}$x12 inches open, and when spring arrives, generally in February, I again contract the entrance to about $\frac{3}{8}$x3 or 4 inches for an average colony, as by this time when the bees are flying more or less every day, they are better able to keep their combs and inside of the hives free from dampness and mold, and it also assists the bees in keeping up the temperature to rear their young. I have no doubt it would pay in this mild climate to use more packing on the top of the brood-frames than I do, for then so much ventilation would not need to be given thru the entrance in cold weather, and the consumption of winter stores would not be so great. However, my bees have come thru the winter in good condition, with a loss of a very few colonies, and I have never used more packing than mentioned above.

6. Sections are high in price. I have a 1901 catalog issued by a firm in Portland, Oreg. In it No. 1 sections are quoted $4.75 per 1,000, and foundation from 50 cents per pound for heavy brood to 65 cents per pound for extra-thin, in 10 pound lots. If you come out here to start in bee-keeping, I would advise you to purchase a Barnes foot-power saw and make your own sections, frames, hives, etc. Lumber is cheap. While we have no basswood, spruce is plentiful, cheap, and good to make sections from. I have found Oregon and Washington cedar to be the best material I know of for hives and frames. Any man with average intelligence can make his own hives, frames, sections, etc., with the saw mentioned above, and come out ahead with his bee-business, even after a poor season, when money is scarce with the bee-keeper. Of course, if you haven't it I would advise you to get the "A B C of Bee-Culture," and read the directions there given for making hives, and the proper use of the Barnes saw. (As I have no ax to grind, I hope the editor will not object to the special recommendations given to the saw and the book, as I give it solely for the benefit of bee-keepers, and write from actual experience. I feel that I owe so much of my success in bee-keeping to the American Bee Journal, with all its beloved and able writers, that I want to do what I can towards paying a little of my debt.)

7. Bees can be bought in box-hives from farmers here at all prices, from $1.00 to $2.50, but of course it takes time to gather up enough bees in that way to make a reasonably good start, and you will perhaps also have to call on bee-keepers who ask from $5 to $8 per colony for bees in one-story dovetailed hives.

8. There is very little territory in Clarke County worth anything for a specialist bee-keeper that is not already occupied, but there are good locations farther down and along the Columbia River. T. H. WAALE.

Clarke Co., Wash., Jan. 26.

Bees Cleaning Up Unfinished Sections

As autumn was closing I had 50 pounds of honey in unfinished sections. As I desired to use these for baits the coming season, I concluded to let the bees empty them by placing them in tiers (and myself in the same position), and allowing but one bee to enter at a time; but having a rich neighbor owning bees on the square above me (I own mine on the square also, tho very much encumbered), I concluded it would be unwise to allow him even a small "sphere of influence" lest he overrun my kingdom with his own; so I began forthwith the tedious process of uncapping and extracting the entire lot of unfinished sections. After they were all uncapt and tiered about 30 feet to the westward of my western row of hives, and the bees had been working on them for some time, I was attracted by the buzzing industry about that bee-space. Watching with high admiration the opposing columns, as first one, then the other, gained the ascendency, now pouring

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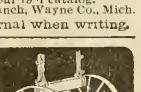

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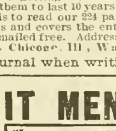

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into, now out of, now gorging the entrance. I discovered that the rich man was becoming richer, and the poor man poorer. As a neighbor sometimes keeps his own by knowing what a neighbor hath, so I have since done. Knowing that my neighbor's bees were all blacks, and a good share of mine Italians, my curiosity was aroused until it stood on tiptoe. Peering from a window I beheld their black craft as they sped on their course to their place of mooring. Ne'er was merchant-man so freighted, tho loaded to the water's edge, and well-nigh unto drinking. To and fro they plied twixt rich and poor. Not a sail from Italy's sunny strand e'er hove in sight! My neighbor's blacks had found the treasure, staked their claim, and asserted "priority of occupation."

Again, last autumn's glow, I piled a score of hives up in three tiers. Italy's fair colors now fanned the breezes as they bore down upon the discovery, and sped to tell the news to ready listening ears that waited word to spread all sail. But three or four of my colonies were thus engaged in the carrying trade, while my neighbor's and 80 of my own were not plying an oar. Thus, it seems, that given but a bee-space the discoverers had planted their standard on the new-found shore, and taken possession in the name of their queen.

R. C. HUGENTOBLER.

Hamilton Co., Ohio, Jan. 7.

Bees Did Fairly Well—12-Pound Cases.

I have 82 colonies of bees, 30 in 8-frame dovetailed hives, and 52 in 10-no-me-nude hives. I intend transferring them all to standard hives. They are in fine condition, and have about 100 pounds each of honey to build up on this spring.

I have had some experience with bee-paralysis. I simply kill the old queen, and rear a new one from my best stock. But if I let them alone they will die within three years.

I sold honey in one-pound sections in 12-pound shipping-cases—the first ever sold here—and it went like hot-cakes; I could not supply the demand.

My bees have not done very well the past three years, tho I have secured from 1,000 to 1,500 pounds of honey each year, while my neighbors got none. Why? Because I take the American Bee Journal. When I first began taking it people laught at me, but they have stopt it, as they see that I get the money, and I still take the Bee Journal. I can't get one of them to take it, tho. But let it still continue to come to help me out of my troubles, as it always has done.

A. R. YANDELL.

Scott Co., Ark., Jan. 30.

Requeening—Red Clover Honey.

In requeening some of my colonies last season I took two frames with the queen from one of my strongest colonies, giving the remaining brood one of my imported queens from Italy. Thus I had good eggs and larvæ from my first colony to rear queens from, and got a fine lot of queen-cells drawn out. On the eleventh day I took the queens from the colonies that I wanted to requeen, and by the next day the bees had learned that they had no queen. On the morning of the twelfth, after the brood had been exchanged, I cut out the queen-cells that suited me, putting one in each hive between two frames and at the top, taking care that the sides of the cells were protected, as I never knew the bees to cut a queen-cell at the end. Within three days the young queens had hatcht, and the bees had received them, and in from five to eight days I had young laying queens. I requeened eight colonies by this method, and did not lose one. I tried a few on the nucleus plan after the queen had been laying, and lost two out of five, so I like the new way better if it continues to work as well as on the start. But if it should work as some of our experiments with the bees do, I may change my mind, for sometimes when we think we have attained perfection in some of our work with the bees, they let us know that we are not yet master of all their ways, and upset all of our plans. So I have learned that other creatures have some rights in the way of following the plans

of the great Creator, and are harder to lead astray than a good many people.

Bees did little more than get a living here the past season. I had only a few colonies that stored any surplus, and a good deal of that was from red clover, so I have had the pleasure of eating some red clover honey, and think it very fine.

I am keeping only a few bees, as I am not able to do much work, but what few I have I want as good as can be had, the same as I did when I was looking for a wife.

ARTHUR A. HOUSER.

McDonough Co., Ill., Jan. 31.

Poor Season—Bee-Literature.

Last season was a very poor one with me, as my bees swarmed too much. The colonies in 12-frame hives, which I was running for extracted honey, swarmed, and I put them back, removing two frames of brood and giving them frames of foundation, and that put an end to their swarming. They went to work and stored more honey than those in the 10-frame hives. My crop of comb honey was away behind what it usually is.

I have 20 colonies in double-walled hives in good condition. I winter the bees on the summer stands, and have very few losses—none last winter. I make my own hives.

I began taking the Bee Journal when I began keeping bees, and have learned all that I know about bee-keeping from it. I would like to have my bee-keeping friends subscribe for it; I tell them of the advantage in being a reader of the Journal, and give them copies to read, but they seem to think they know enough without it. I tell them to look at the honey I get, when they get only a few half-finish sections. My bees are Italians.

JAMES LAIDLAW.

Ontario, Canada, Dec. 31, 1900.

In Winter Time—Bee-Keeping in Maine.

Now that the bees are all quietly dozing away the long winter days and nights, tiered up in their winter quarters, or snugly packt on the summer stands; the numerous odds and ends consigned to the wood-pile, and the necessary material stowed away under cover, awaiting the opening of another spring campaign—the busy bee-keeper has ample time to reflect on his past conduct; make new resolutions; reread some of the articles in his favorite bee-paper that he only half read during the busy season; build that "non-swarming hive" which he knows will work to perfection; and occasionally write an article for the bee-keeping fraternity, telling them how he has discovered a method that will revolutionize the industry!

If he has been observing—as most bee-keepers are—he has learned some things that he will have to learn all over another way, the next season—some things he has learned for a positive fact. That big crop of honey he was going to harvest is a sweet reality, or a dismal mistake—more often the latter.

Perhaps he has tried the different strains of bees, and thinks he has satisfied himself as to which is the best, or is still perplext about it. Well, he can at least tell what he *thinks*, and the laws of this free, expanding country will not prohibit him from believing it, tho others disagree.

That bee-keeper who has been asleep for 20 years (page 777, 1900) seems to be wide-awake enough now, and after Prof. Cook. Very good. It is just such chases as this that bring out facts. I wonder if he dreamed those things during his 20 years' nap. If so, like Daniel of old, he feels that "the dream is certain, and the interpretation thereof sure." My own observations compel me to agree with him in the main. Experiences similar to this make me think that in the majority of cases an issuing swarm does not know where its future home is to be. But in some instances I think they do know where they intend to "pitch their tent." Two instances came to my notice last summer, where swarms left for parts unknown. One, after going about a half mile, clustered again, and remained there thru the night and until nearly noon the next day. The other was found on a fence a mile or more from the nearest apiary, where it remained two days and two nights after it was discovered. I do not know how long it had been there before it was found.

On the other side of the argument: Two seasons ago a large swarm of hybrid Italians—the largest I ever saw—left for the woods as I was about to take them down. They started in a direction a little south of west. I threw several pails of water among them with a hand-spray pump. Tho it didn't stop them it turned them from the direction in which they were going, and headed them northwest. I followed them until they tired of my company, tho I was not at all tired! They were now working toward the south. They past a neighbor's a mile from the apiary, and then turned their course again. It seemed to me that they were making for a certain place. I have an idea, but not much proof to offer, that a prime swarm is more likely to have a future home in view than an after-swarm.

I believe that for some localities the black or German bee is a better all-around bee than the Italian, especially if working for comb honey. I think—tho my experience will hardly warrant my expressing views on the subject—that if the same amount of labor and time had been spent improving the black bee that has been spent in improving the Italian, it would be a much better bee for the localities where the season is short, and perhaps compare favorably where the season is longer. I have been trying the Italians and the crosses for the past four seasons, and so far the blacks have proven the most profitable. If there were a demand for bees I should want the Italians for profit every time.

In this county the bees can be put back on the summer stands about the middle of April. If the weather is fine there is usually enough honey to keep up brood-rearing nicely, until about the middle of June, when white clover begins to bloom; then the main flow is on which lasts about three weeks. Very little swarming occurs before the beginning of the flow. The blacks, if strong, will usually cast one or two swarms, and then devote their time to storing honey, while the Italians can be depended upon to swarm twice, three times, or even more. In 10 to 20 days the prime swarm can be expected to repeat the performance. I have had them swarm repeatedly before the frames were full of comb. Perhaps I have been unfortunate in the strains of Italians I have secured, but I have had queens from Ohio, Pennsylvania, and Texas. The Texas strain was less given to swarming, better comb-builders, and workt more readily in the sections. It is only justice to say that I think the Italians could be handled so that they would produce as much—or possibly more honey in this county, but it would require more labor and attention. If I succeed in doing this I will tell of it later on.

O. B. GRIFFIN.

Aroostook Co., Maine, Dec. 20, 1900.

Poor Season—Wintering Bees, Etc.

Last season was a poor one from beginning to end. There were plenty of flowers, plenty of rain, plenty of bees to gather the honey, and everything suitable for a good honey crop, but there seemed to be no nectar secreted

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in the blossoms. Can any one tell why there was not?

The absence of zero weather this winter (with the exception of one day—Dec. 31st), has been a very desirable feature in the wintering of bees in this locality. There were several days in November and December when the bees had a good, cleansing flight, and many days when they couldn't fly they could move their positions inside of the hive, to reach their stores. This state of affairs almost insures safe wintering. Very little snow has fallen thus far (Jan. 30).

My losses in wintering during the winter of 1899 and 1900 nearly wiped my apiary from the face of the earth, hence my attention has been drawn to other means of making a living, yet the old love for the business still remains, and to give up a calling that I have followed for 20 years or more seems a hard thing to do. The pleasure one derives from a business he loves to follow is hard to estimate. Altho my losses have been very heavy during the past three years, I still take three of the best bee-papers, and have kept informed along the line of new improvements.

I am wintering my 22 colonies on the summer stands, in chaff or double-walled hives, protected on the north and west sides by corn-fodder set up around them to break the northwest winds. If such protection had been given them two years ago, when my loss was so heavy, I think a large percent of them would have been saved. A high board fence, or some protection on the north and west, is very essential in wintering bees on the summer stands, and in the end saves many times the cost of such a construction.

Altho my bee-keeping experience extends back for more than 20 years, my knowledge is still quite limited. I learn something nearly every day, either from the bees or by the reading of the experiences of others in the bee-papers.

White clover abounds in this locality, and promises a fair crop next season. The yellow and white sweet clover varieties are also getting a start around here.

The "Old Reliable" comes to my desk every week as regularly as the clock strikes the noon hour every day. I am glad to note that many improvements have been made in its make-up and in the valuable matter it contains from week to week. I wish all the readers of it, and the Bee Journal itself, a prosperous year and a bountiful harvest.

Cass Co., Nebr., Jan. 3. J. M. YOUNG.

California Smiles.

I notice in a recent issue of the American Bee Journal that I am quoted as holding rather pessimistic views in respect to the rainfall and honey prospects in this State. Well, matters have changed since the publication of that, and now we are optimistic. Things are favorable and almost certain for a good honey-yield.

We have had an abundance of rain during the past 10 days, and vegetation is coming forward with a rank growth. The sages, altho somewhat killed out during the past three years, are making a good growth, and a new growth is putting forth with vigor. Bee-keepers are putting forth also, with the expectation of a honey-yield. Bees are in demand, and I recently learned of the sale of 200 colonies for $1,000—an extra-good price for this country. There has been over 12 inches of rain up to date, and more coming.

THE RAMBLER.

Ventura Co., Calif., Feb. 6.

1900 a Failure—A Wheat Country.

The past season was a poor one for honey in this locality. I did not get any, and about the only man that did was an old gentleman that never takes a bee-paper. He secured about 200 pounds of nice white honey; he has a near neighbor that raised alfalfa, and the bees got it from that source. I have tried to get him to take the Bee Journal, but he refuses, saying that if he did he would not change his way of keeping bees.

I have seen a good many bee-keepers this winter, and all report 1900 a poor year, and most say it was a failure. Well, I had the fun if I didn't get a crop of honey. I will sell a part of my bees in the spring, and run what I keep for comb honey.

This is a farming district, and the crop is mostly wheat. Last year it rained soon after the fields were cleared of crops, then the plowing began, and bee-feed was turned under before it had time to bloom. This county is the banner county of the State for wheat.

SAMPSON STOUT.

Sumner Co., Kans., Jan. 28.

Langstroth on... The Honey-Bee

Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

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GINSENG $10, in plants produce $4,000.10 in 10 years. Book telling how to grow it, 4c Lakeside Ginseng Gardens, Amber, N.Y.

Tennessee Queens!

Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3½ miles apart, and mated to select drones, $1.50 each; untested warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and but few within 5 miles. 28 years' experience. Discount on large orders. Contracts with dealers a specialty. JOHN M. DAVIS,
6A26t Spring Hill, Tenn.

Please mention Bee Journal when writing.

The Belgian Hare Guide

This book is acknowledged to be the finest and most reliable book out on the Belgian hare industry. It contains complete and practical information on the following and many other subjects pertaining to the industry: History and Origin, The Belgian for Utility, The Belgian for Fancy, The Business and its Outlook, How to Begin, Houses and Hutches, Foods and Feeding, Feeding Green Stuff, Mating and Breeding, Care of the Young, Pedigrees, Score Cards and Judging, Belgian Hare Color, Dressing and Cooking, Diseases and Remedies, Preparing for Exhibition, Crating and Shipping, Capoutzing, Queries and Answers, Miscellany, Belgian Hares vs. Poultry, The Belgian in England, The Belgian in California, Black Belgians and Flemish Giants. It is elegantly printed on fine paper, illustrated with numerous beautiful photo engravings, and is substantially bound. No one interested in Belgians can afford to be without it. Send your order today. Price, 25 cents.

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For $1.10 we will send the "Belgian Hare Guide" and the American Bee Journal for one year; or for $2.00 we will send the Bee Journal for two years and the "Belgian Hare Guide."

Address, GEORGE W. YORK & CO.
118 Michigan St., CHICAGO, ILL.

Some Queen Experiences—Cooling Wax.

The question, Why should a colony refuse to kill the old queen when she has stopt laying, and a young queen has emerged, the colony finally swarming with the old queen that was clipt, there being no eggs or uncapt brood, and but little capt brood in the cells? was askt by me at the National convention, but as I was not in attendance when it was brought before the convention, I will relate the facts as they occurred:

It was the first week in August, and I was not expecting any swarms under the prevailing conditions, but while working in my store-house for bee-supplies, etc., I noticed a commotion among the bees, and upon investigation found a swarm in the air. I soon found whence they came, and as I wanted some increase I secured a new hive, which I placed on the old stand, putting the old colony on a new stand. The swarm soon returned, the old clipt queen being with them. After a little time I went to see how the swarm took to the new hive, and found nearly all of them clustered on the bottom of it, so I used the smoker to drive them back. I thought something must be wrong, so I opened the old hive and found a young queen, which I killed. Upon further examination I found that the frames did not contain a single egg or any uncapt brood, and but very little capt brood, and several queen-cells in which were queens about ready to emerge. I killed all the queens, including the clipt one with the swarm, and gave each colony young larvæ from Italian queens from which to rear others. In about 8 or 10 days I became so dissatisfied with the Italian queen from which the larvæ was taken that I went to one of the hives into which was put the frame of brood, larvæ and eggs, and to my astonishment I found a line of queen-cells built around the lower part and on both sides of the frame. I counted them, and found that there were 60 capt queen-cells. I destroyed these and transferred the just-hatcht larvæ to the uncapt cells, and they were accepted and hatcht into fine queens. I do not know if such things happen frequently, or whether they are freaks, but I know positively that the above occurred.

I bought and reared a number of queens during the past season, which were introduced without a single failure. I think there is no excuse for losing queens thru introducing, if the proper course is pursued, and precautions taken. Always be sure there are no queen-cells and no queen in the hive before releasing the new queen. Leave the caged queen in the hive two or three days, and let the releasing be done by the bees eating thru the candy. It is better to introduce queens during a honey-flow, as they are more readily accepted at that time.

In regard to the cooling of wax, I be-

lieve that the longer the wax is in cooling, and the longer it is in the liquid state, the clearer it is of dirt. Slow cooling might not make any difference in the quality of the wax after it had past a certain temperature, but fast cooling will almost always cause it to crack, and this I wish to avoid. As a rule, when I extract wax I have quite a lot of it which I pour into large pans placed upon the floor, and cover with sacks and such available material, and it is generally satisfactory.

The honey crop was short in this locality the past season, and white clover was a failure. I have made a practice of stimulative feeding for several years, and I think it pays when properly done. The early spring and until after fruit-bloom was exceptionally good. After fruit-bloom I began feeding, using the Boardman feeder early in the morning. I continued to feed until within a week of basswood bloom when I discontinued, thinking the bees were getting enough from the fields to keep them up until the basswood flow. But by that time nearly all were light in honey, tho very strong in bees, and it took the first three days to fill up below. Then the weather became so cold that it threatened frost, and for about four days they stored but little honey. The colony on the scales stored 8½ pounds. There being but little fall honey, and October being such a warm month, bees flew nearly every day, using up their stores, so quite a number of colonies were a little light when the time came to put them into the cellar. But we hope for better years to come.

I enjoy reading the report of the National convention, and I think all bee-keepers should be subscribers to the American Bee Journal.

G. H. FREY.

Linn Co., Iowa, Jan. 10.

YELLOW OR WHITE

Sweet Clover Seed

Free as a Premium

For Sending us One New Subscriber for a Year.

There has been so much written about both the white and the yellow variety of sweet clover, that we will simply say here that if one of our present regular subscribers will send us $1 with a new name for this year, we will mail, postpaid, to the one sending the new name and the dollar, either **one pound** of yellow sweet clover seed, or **two** pounds of the white sweet clover. This is a good chance to get a start of both kinds of these honey clovers. Better send two new subscribers (with $2.00) and get the three pounds of seed. Address,

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WANTED.—A situation by a young married man, to assist in or care for apiary, and fruit-growing. Experienced with bees; sober and reliable; handy with tools; small family, and musician. N.Y. State preferred. Address, J. H. CLUTE, 432 Scotland St., Orange, N.J.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Feb. 19.—Fancy white comb, 16c; No. 1 white comb, 14@15c; fancy amber, 12@13c; No. 1 amber, 10@11c; fancy dark, 10c; No. 1 dark, 8@9c White extracted, 7½@8c; amber, 6½@7½c; dark, 6½c. Beeswax, 28c.
R. A. BURNETT & Co.

KANSAS CITY, Feb. 19.—Fancy white comb, 16@16½c; amber, 12@13c; dark, 10c. Extracted, light, 9c; amber, 7½@8½c. Demand fair; receipts light. Beeswax, 22@28c.
W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

CINCINNATI, Feb. 9.—The market for comb honey is becoming very bare, altho the prices have not changed. Fancy white comb is still selling for 16c; no demand for darker grades. Extracted is in fair demand; dark sells for 5½c; better grades from 6½@8c; only white clover brings from 8½@9c. Beeswax, 28c.
C. H. W. WEBER.

ALBANY, N. Y., Feb. 11.—Honey market is dull and prices nominal; light stock, but the cold weather is bad for it. Comb, in good order, not candied, white, 15@16c; mixt, 13@14c; dark and buckwheat, 11@12c. Extracted, white, 7@8c; mixt, 6@6½c; dark, 5½@6c.
H. R. WRIGHT.

BUFFALO, Feb. 8.—Some more active this week, and may clean up better than expected awhile ago. Fancy 1-pound comb, 15@16c; No. 1, 14@15c; No. 2, 12@13c; dark, buckwheat, etc., 8@10c. Beeswax, 25@28c. BATTERSON & Co.

BOSTON, Feb. 8.—Fancy No. 1 white in cartons, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. Absolutely no call for dark honey this year. Extracted, white, 8@8½c; light amber, 7½@8c. Beeswax, 27c.
BLAKE, SCOTT & LEE.

NEW YORK, Feb. 19.—Comb honey is being well cleaned up on our market. The demand has lessened to quite an extent, on account, we presume, of the high prices which have been ruling. Fancy white still brings 15@16c in a small way; No. 1 white, 13@14c; amber, 11@12c; buckwheat, 10c. Extracted rather dull and not much doing. California white honey, 7½@8c a pound; light amber, 7c; Southern, from 60 to 70c per gallon; buckwheat, 5@5½c. Beeswax steady at 28c. HILDRETH & SEGELKEN

DETROIT, Jan. 19—Fancy white comb, 15@16c; No. 1, 13@14c; dark and amber, 12@13c Extracted, white, 7@7½c; amber and dark, 6@6½c. Beeswax, 26@27c. M. H. HUNT & SON.

SAN FRANCISCO, Feb. 6.—White comb 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber 6½@7¼c; amber, 5½@6½c. Beeswax. 26@28c.

Considering the light output of honey last spring from California apiaries, present offerings are of tolerably liberal volume and are mostly of amber grades. The market is slow at the quotations. It is reported on good authority that adulterated and imitation honey is being dealt out in considerable quantity, which accounts in a great measure for the very limited business doing in the pure article.

HONEY MARKET.—We may have a customer within a short distance of you who wants your honey or beeswax. We are in close touch with all the markets; therefore write us regarding your crop, stating quantity, quality, and lowest cash price. Refereeces—Either Bank here for any business man in this city.
THOS. C. STANLEY & SON, Fairfield, Ill.

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—DO YOU WANT A—
High Grade of Italian Queens
OR A CHOICE STRAWBERRY?
Send for descriptive price-list.
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Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	90c	1.70	3.75	7.00
White Clover	90c	1.70	4.00	7.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.
Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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Liberal Discounts to the Trade.

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Gleanings one year and one untested red clover queen, $2.00. Gleanings one year and a tested red clover queen, $4.00; a select tested red clover queen and Gleanings one year for $6.00. We will begin mailing these queens in June. Orders are already being entered and will be filled in rotation. Do not neglect to improve this opportunity and get some choice stock. Send your order early so you may get the queen correspondingly early in the season.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., MARCH 7, 1901.

FORTY-FIRST YEAR
No. 10.

WEEKLY

Roof-Apiary of Mr. G. E. Purple.
(See page 148.)

THE AMERICAN BEE JOURNAL.

PUBLISHT WEEKLY BY

GEORGE W. YORK & Co.

144 & 146 Erie St., Chicago, Ill.

Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50c a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec01" on your label shows that it is paid to the end of December, 1901.

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Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey commissionmen.

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ARE DEMANDED NOW.

ONE Untested Italian Queen FREE as a Premium for sending us TWO new subscribers to the American Bee Journal for one year (with $2); or, one Tested Queen free as a premium for sending us FOUR new subscribers (with $4.00.)

We have arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us the coming season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

Orders for these fine, "long-reach" queens will be filled in rotation—"first come, first served"—beginning about June 10th. It is expected that orders can be filled quite promptly, as a large number of nuclei will be run. All queens will be guaranteed to arrive in good condition, and all will be clipt, unless otherwise ordered.

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26 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 26 cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price.

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Best White Alfalfa or Basswood Extracted Honey

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This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms in Wisconsin. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

A sample of either, by mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. The cans are boxt.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., MARCH 7, 1901. No. 10.

Editorial.

The National Convention Report is omitted this week on account of more copy not being received in time from the secretary. We regret this second break in the long "continued story," as we desire to complete it as soon as possible.

A Glucose Test.—Editor E. R. Root said at the Wisconsin convention that adding an equal amount of wood-alcohol to honey, stirring well, and then letting it stand say ten minutes, is a good test for glucose in honey. If adulterated the compound would show a milky appearance, and remain clear if pure. This is a simple test, but we presume the wood-alcohol must be absolutely pure itself to start with.

Bee-Keeping at the Pan-American.—At the last Ontario County (N. Y.) Bee-Keepers' convention, Mr. O. L. Hershiser, superintendent of the apiarian exhibit at the Pan-American Exposition, said that it was proposed to have a commodious building for the accommodation of bee-keepers; that bees alive were to be exhibited in regular yards as kept in different lands; and also that there would be shown articles from bakeries in which honey is used as an ingredient. The New York bee-keepers will be allowed to exhibit at least 5,000 pounds of honey, about equally divided between comb and extracted. The extracted is wanted in bulk, the State to furnish the packages in which it is to be exhibited. The State will also furnish the cases for the comb honey. All bee-keepers in New York, who have any honey suitable for exhibition, should address Mr. Hershiser. He will buy the honey outright, which, however, he will not do until next season, when the new crop comes in. No exhibitor will have to pay any freight charges. On request the honey will be returned to the exhibitor, or such disposition made of it as he may desire. Mr. F. Greiner furnishes this information for the American Bee-Keeper.

Big Yields of Honey.—The Twentieth Century Farmer has been telling a whopper on the 19th century bee-keeping. Here is what it publisht recently:

CYPRIANS HOLD WORLD'S RECORD.

The next breed of bees imported came from the island of Cyprus. They are called Cyprians, a name not always used for bees. The Cyprians hold the world's record for the amount of honey gathered by one colony in a single season. Mr. Doolittle, of New York State, a well known apiarist, took 1,000 pounds of extracted honey from one colony of Cyprian bees one year. They have one serious fault—they are very nervous, and will defend their stores of honey to the death. They can not be subdued by smoke. When aroused the only way to conquer them is with a mild dose of chloroform. On account of their disposition they have not become popular.

Upon receipt of the Farmer containing the above paragraph, we clipt it out and sent it to Mr. Doolittle, to show him what was being credited to him. And here is what Mr. D. says about it:

The above reminds me of the "man who puked up three black crows," of ancient time, while the truth was that "he threw up something as black as a crow, and told his neighbor so."

My greatest yield of extracted honey from a single colony of bees was in 1877, when one colony gave me the large yield of 566 pounds, besides producing enough to winter on—or about 35 pounds more. So that the total gathered by this colony was not far from 600 pounds, all told; that is, above what they consumed while gathering, or during the summer months. But this was before any Cyprian bees were imported into this country, the bees doing the gathering of this 600 pounds being those best of all bees, *all things considered*—the Italians.

But this record of 566 pounds has been outdone several times. E. Gallup, while in Iowa, went considerably above 600, and P. H. Elwood, of this State, produced 640 pounds from one colony, if I am correct; while a Texas bee-keeper obtained 1,000 pounds, or a little over, from a single colony in the spring and its increase. This latter I have spoken of in print several times, always crediting the matter to the State of Texas. It would now appear that it has grown, like the crow story, till *I* myself produced the 1,000-pound yield, and did it with Cyprian bees. But the Cyprian part is wholly "manufactured," for, if I am right, this 1,000-pound yield was produced before any Cyprian bees ever came to this country. G. M. DOOLITTLE.

Onondaga Co., N. Y., Feb. 20.

That "Utter"-ly Glorious Victory won down in New York State last December grows more glorious all the time. Editor Root, in Gleanings in Bee-Culture, has a paragraphic editorial with this quoted heading, "But 'Twas a Glorious Victory." Then right under it he gives the following from Josh Billings:

"Sum people that go to law for dumminges sumtimes get more than tha want."

After that comes this paragraph referring to the final settlement of the Utter vs. Utter suit:

Just as this form is going to press I have received information that the plaintiff, or, as he is called, Fruitman Utter, has decided not to carry his case to a higher court, and he has settled by paying all the costs, which can hardly be less than $500 or $600. Thanks to the National Bee-Keepers' Association, the defense was so strong that the other side knew there was absolutely no show for them. We met the enemy, and whipt him so hard that he knew there would be nothing left of him if he attempted to put up another fight. 'Tis well. Hip, hip, hurrah for the Association! Such a victory ought to appeal to every one of our subscribers who is not a member. Send in a dollar to General Manager Secor, Forest City, Iowa, and have a hand in this glorious work. There are more battles to fight, and we need your help, and—*you may need ours.*

Yes, Manager Secor ought to be kept busy now taking in the membership dollars. Surely, every bee-keeper should desire to belong to an organization that does such effective work.

If it is more convenient for the readers of the American Bee Journal to send their membership dues to this office, we will be glad to receive them and forward to Mr. Secor. We would like to see every one of our subscribers get into the National Bee-Keepers' Association. You can't help in a better way for the uplifting and defense of bee-culture.

The Production of Comb Honey.—Mr. F. Greiner reports in the American Bee-Keeper some notes from the Ontario County (N. Y.) Bee-Keepers' convention held last Dec. 13th and 14th. Referring to an address by W. Z. Hutchinson, he gives the following important point:

As soon as it is advisable to put on the honey-boxes or supers, give a super full of drawn comb. This will keep the honey out of the brood-chamber, and start the bees right. Empty sections, or such filled with foundation, do not fill the bill here. When the bees once get in the habit of storing their honey above, they are apt to continue thus thruout the season; when they form a habit of filling the brood-chamber with honey at the beginning of the season, they then are slow to enter the sections any time after. Mr. Hutchinson had observed that by giving supers full of drawn comb a case of honey was gained above what other equally as good colonies had made supplied with empty sections.

The swarms are treated according to the Heddon plan. Mr. Hutchinson had done a good deal of experimenting with swarms, hiving them alternately on combs, foundation, and starters. The combs always gave the poorest results with him, and the foundation, aside from insuring perfect combs, proved a total loss. No young swarm is allowed more than five Langstroth frames, or one section of the Heddon hive. Contraction is practiced only on the swarms.

He has come to the conclusion that it is not always profitable to supply the bees with foundation. During a good flow he claims wax is produced anyhow, and if there is no opportunity to use it somewhere a large portion of it is lost. And, after all, he expresses his opinion that good, straight worker-combs were not too dear at the expense of the foundation.

A Looking-Glass placed before the hive-entrance is advised in the Leipziger Bienenzeitung, to scare away robber-bees. Perhaps it is thought that if the robbers could "see themselves as others see them," they'd "quit their meanness."

Contributed Articles.

A Successful Roof-Apiary in Chicago.

BY G. E. PURPLE.

TO relate my experience in keeping bees in the city, and how the idea occurred to me to keep them on the roof, I will have to go back a few years.

Like a great many others, my boyhood days were spent on a farm. When a boy 16 years old my father took some bees to keep on shares. It was not long before an interest in the little creatures was aroused in me, and I became quite a student of their ways, studying them as best I could while using a box-hive. After keeping them about two years in box-hives, having the usual failures one has when he works with them blind (one may say), I secured a copy of the "A B C of Bee-Culture." I began reading it and could not bear to drop it until I had read and reread it all thru, and from that day to the present time my enthusiasm has not abated. Not being blest with an over-abundance of this world's wealth, I made hives and frames, so by the next season I had all the bees in movable-frame hives. I had six or eight colonies at the time.

Let me say here that before this we had returned to the original owner his share of the bees, so all we had then were our own.

The next two seasons were very favorable ones, and by the end of the second we had 30 or more colonies and succeeded in getting over 2,000 pounds of honey from 20 colonies, spring count—an unheard of amount in that country (northwestern Missouri).

The next three or four years were either entire failures or only a very little surplus. Having a very good position offered me in Minneapolis, I concluded to accept it, and leave the farm and bees to father's care. Father all this time had left the care of the bees entirely to me, and when the responsibility fell to him he was little prepared for it, and, as a consequence, the bees were more or less neglected, and gradually dwindled.

During my stay in Minneapolis I made the acquaintance of persons who kept bees, and we spent many an hour talking over our experiences, and enjoying ourselves as only enthusiasts can.

Owing to the financial disturbances of 1893, I found it necessary to change my residence from Minneapolis to Chicago, and have lived here since. While riding home from work one evening I saw a man sitting opposite me in the car reading the "old reliable" American Bee Journal. Of course I knew he was a bee-keeper, and knowing all bee-keepers are jolly good fellows, I ventured to speak to him, and he proved to be our friend Mr. Mead. I afterwards called on him, and we together examined his bees. I learned they did not disturb his neighbors, and that there were many nectar-yielding plants in the vicinity. That call revived in me the "bee-fever" again, and I determined to get one or two colonies as soon as I could find a place to keep them.

Soon after that I moved farther out, and while on the roof one day I thought it a capital place to keep bees, and the next spring I sent down home for one colony, and tried it. The colony father sent was not a very good one, so I bought two frames of brood and a queen from Mr. Mead to build them up. They did far better than I expected, producing over 150 pounds of extracted honey (borrowed the extractor) that season. The bees wintered well on the roof, packt in planer-shavings, and the next spring I sent for all there were left on the farm—only four, and one was dead when it reacht me (starved out). So I started with four good, strong colonies. That summer they increast to seven, and I got an average of 150 pounds per colony.

In the fall I moved to the present location, and the following winter (1898-99) was very severe on the bees. The long-continued cold weather prevented their moving to their stores, and one colony died with plenty of honey in the hive. Only two came thru strong, and four were very light. We had a very early spring, and I never before saw bees build up so rapidly, so by the time the honey-flow came on, they were all good and strong. But it was the first season I ever had reason to complain of my luck; I lost queen after queen, both old and young, and only increast to nine colonies, these producing over 900 pounds of honey.

The next winter, not having them fixt properly, I lost two, and doubled others up. I started with five of my own, and bought 10 more, increast to 21, and produced nearly 3200 pounds of extracted honey. The engraving shows the apiary one Saturday afternoon in August, when Editor York called with his photographer, and took our pictures after we had (as an old friend says) "climbed Jacob's ladder to the bee-heaven." (See first page).

When one keeps only a few bees, more for the pleasure than the profit, and does the work connected with them at odd times, he can keep close watch of each individual colony, and get better results in proportion to the numbers than with a large apiary, and they will amply repay him for the small outlay at the start, and for the time spent in taking care of them.

The roof as a place to keep bees has its advantages as well as disadvantages. Things in its favor are that the bees are up out of the way, and there is no fear of their disturbing any one. (I have never heard any complaints against mine). The roof being nearly level, and covered with clean gravel, there is nothing to hinder the bees, and when they swarm it is easy to find the queen. (I clip all my queens.) While the drawbacks are, getting everything up there, as well as getting the honey down to extract and handle, and some days the wind blows so hard that the bees can scarcely get to the hives at all. Many think it quite a novelty, but the novelty has worn off with me, and I derive a great deal of pleasure as well as profit from my bees, tho kept on the roof of a modern flat-building in a big city. Feb. 1, 1901.

[We might add to the foregoing that Mr. Purple's honey source is principally sweet clover. His apiary is located about five miles west of the Lake, and is a very neat one. He reaches the roof thru an opening directly above one end of the porch at the rear of the third flat in which he lives.

Mr. Purple is a very pleasant gentleman to meet, and thoroly understands bee-keeping. He would be successful almost anywhere with bees, provided there was plenty of nectar for them to gather.

We spent a delightful hour at his roof-apiary, and were surprised to see how abundantly the bees had rewarded his efforts during the summer.—EDITOR].

A Review of "A B C of Bee-Culture."

BY PROF. A. J. COOK.

IT has been a pleasure to review "Dadant's Langstroth" and "Cowan's Honey-Bee," as there is so much to commend and so little to criticize in these volumes, each of which is a credit to our nineteenth century bee-culture. They are books which deserve to live and which will live. I come to the pleasant duty of reviewing "A B C of Bee-Culture" with no less of gratification. Without doubt this book has exerted a wider influence upon the bee-keeping world than any others ever written. Even its rivals can only be joyous in its extensive sale, as they know that wherever it goes it goes to help and to bless. I am the more pleased to do this as I have received several letters thanking me for the reviews of the other books. These reviews certainly call attention to mooted questions and will be almost certain to incite criticisms. I shall criticize no point except in such cases as I have good reason to believe that there is an error, but it is quite possible that in some cases I may be in the wrong.

Page 2—Mr. Root says, "Candidly, I don't know any better way to prevent second swarms than to watch carefully when they are to be expected and then chase after them, climb tree, etc., until they are gotten safely into the hive." I believe that the experienced bee-keeper will rarely be troubled with second swarms. One is enough for the best results, and some of the many ways will, and should, be used to prevent the second swarms. I think the way first suggested by Mr. Heddon is certainly the best. The principle of this is in placing the new swarm close beside the parent colony, and the day before the second swarm would be expected remove the old hive to another part of the apiary. Of course, the older bees will go back to the old location, to join and strengthen the swarm, while the old colony will be so thinned out that very rarely a second swarm will

issue. I used this method for years and with no failure, so far as I know.

Page 6—Is not Mr. Root a little too enthusiastic regarding alfalfa honey, when he says "the quality of alfalfa honey is probably superior to anything that the world has ever produced from any other source"? I claim to be something of a judge of honey, and I think alfalfa is no better than clover, linden, sage, and I think I might find even others quite equal to it.

Page 7—In California it does not take three years to get the best yield from alfalfa. In fact, we often get a maximum yield the very first year in the later cuttings. Alfalfa is a wonderful crop. I often say that I think I would rather have a good alfalfa field than an orange-orchard. I have known several cases where seven cuttings have been made in a year, and it is not uncommon to secure two tons per acre from a cutting. In this same connection, Mr. Root hints that there is so much sweet in alfalfa that the bees even gather (sic) from the dry hay. This is putting it altogether too strong. Still I do not think that too much can be said in favor of alfalfa for it is a marvelous crop.

Page 10—Mr. Root says that digestion is the separation of the nutrient part of the food from the non-nutrient, and the conversion of the nutrient into a liquid fit to mingle with the blood and thus nourish the body of the insect. This is given as a question but he was not happy in his selection of authority. Digestion is simply the fitting of the food to be absorbed. I tell my class that "digestion is rendering the food osmotic." Many authors say that digestion is merely to dissolve the food. This is not a good definition. Some of the food that is already dissolved, like blood albumen and cane-sugar, must be digested before it can be absorbed from the stomach into the blood. That is before it is osmotic. Absorption, not digestion, does the work of separation. One other of our bee-books makes this same mistake.

Page 10—In speaking of the urinary tubes appended to the stomach, Mr. Root calls them the "malphygian tubes." It should be "malpighian," as they were named from their discoverer, Malpighi, a distinguisht Italian physiologist and microscopist. Mr. Root says further of these tubes, "It is not certain what their office is, but it is thought that they are the urinary organs." This is no longer true as urea, etc., have been found in these vessels, so we now know that they function as kidneys.

Page 44—In speaking of the advantage of black bees, from the fact that they can be shaken off the comb so easily, Mr. Root says, "For that reason alone some prefer them, or hybrids, to pure Italians, which can hardly be shaken off." I have very little trouble to fell at one shake every Italian bee from the comb if the latter fully fills the frame. This requires a peculiarly sharp jerk which every apiarist should learn to give. He should also learn to keep the frame perfectly vertical else the comb may follow after the bees, which is about as annoying a thing as can happen in the apiary. I should make this characteristic a count against the black bee and in favor of the Italian. As our best men love their homes so well that they always stick to them if possible, so I prefer the bees that endeavor to stick by their comb.

Page 45—Mr. Benton did not spend the best years of his life in the jungles of India, in search of new bees. Mr. Benton was in India only a few days. I think he was only a few days in Ceylon, where he secured Apis dorsata.

Page 47—It is unfortunate that our authors use the term worm and grub as synonymous with larva. I know this is commonly done but it is wrong, and how shall we correct errors unless our authors avoid them? Entomologists confine the term grub to the larva of beetles, while worms are not insects at all. Worms, as instanced in the angleworm, never have any legs at all, and look essentially the same from first to last except for size. All mature insects have legs and are very different from the larva, or insect, just after hatching. Why not always speak of the immature bees as larvæ and be correct?

Page 49—It is here stated that it is supposed that this larval food is pollen and honey, partially digested by the young or nursing bee. I with others have positively proved that this larval food is perfectly digested pollen, with or without the addition of honey. Planta has shown that the drone-larvæ have mixt with this food toward the last a little undigested pollen.

Page 50—In speaking of viper's-bugloss (Echium vulgare), Mr. Root calls it blue thistle, and speaks of the danger of introducing the seed. This belongs to the borage family and is no thistle at all. This name should never be used. It is like borage in being no serious pest.

Page 98—Are the drones from the laying worker eggs smaller than those from the queen's eggs? I am sure this is not always true. I think Mr. Root right in questioning the fertility of such drones, tho I am of the opinion that they are functionally perfect. I arrive, of course, at this judgment from a study of their anatomy.

Page 101. It is very doubtful, indeed, that unimpregnated eggs will ever produce workers. That queens with imperfect wings sometimes lay eggs that produce worker-bees would seem to prove that occasionally a queen may mate in the hive. I feel quite positive that I once had a queen that was so mated. I can explain the case in no other way. Yet it is so exceptional that I still feel a doubt in the matter. I think in writing we should use the word fecundate or impregnate rather than fertilize, as we also better use the word pollinate instead of fertilize. Let us reserve the word fertile to indicate that the male or female is functionally perfect or sexually perfect.

Page 126—A case is given where night work with bees was carried on successfully. I occasionally practiced night working with bees where it was imperative, but I did not like it and would not recommend it except in extreme cases. The bees have such a way of crawling around and are not discriminating. Were I to work at night I should want a string around my "pantlegs," as also my wrists, and should desire my bee veil tuckt well in at the neck. Our author recommends this night work to prevent robbing. The beetent and other suggestions given in all our best bee-books are, I think, greatly to be preferred.

Page 126—"You could feed white sugar so as to produce very nice looking honey, but it would be sugar syrup in honeycomb after all, as you would find to your sorrow if you should attempt to sell it as honey." This is simply not true, as one experiment will satisfy anyone if he will but try it. I believe in telling the truth even if it confronts the prejudices of the whole bee-fraternity. Mr. Abbott at the last National convention stated and reiterated this untruth. If Mr. Abbott will feed his bees pure granulated sugar syrup and then taste of the product, he will find that it is certainly honey and not sugar syrup. It surely will lack any aroma which might be secured in the nectar of flowers, but it will have decidedly the taste of honey, and will be preferred by many to any other kind of honey, as I have proved more than once. Yet it will rarely if ever pay to do this even if there were no prejudice against it, and in view of the prejudice it would certainly be unwise. Let us talk, however, of its nonprofitableness, and of its unwisdom, and not state what we can all so easily prove is not the truth. I was brought up to believe that untruths never pay, and I have never yet seen reason to believe otherwise.

Page 129—I have always wondered at the statements we so frequently see of bees expelling water from the honey while on the wing. I never saw it and don't believe they ever do it. We have so many reports that there certainly must be some ground for the opinion. If a fine mist does escape from the bee, it is surely one of two things—either excreta from the intestines, or perspiration from the bee. The bees excercise very severely and must of necessity cool off. This must be done thru perspiration. This perspiration must occur in the breathing tubes as the thick chitinous crust of the bee's body would preclude much if any sweating from the exterior surface. I have no doubt that much evaporation of moisture escapes from the trachea of the bees when the latter are hard at work in very hot weather. That this might descend in a mist is possible. I should like, however, to see it.

Page 142—Our author speaks of honey from the nectar of fruit-blossoms as of poor quality. I would like to hear from others on this subject. I was once so happy as to get some unmixt apple-blossom honey. I thought I had never tasted any so excellent. Others to whom I gave this were equally enthusiastic.

Page 144—I have often been puzzled, as has Mr. Root, in the varying opinion among fruit-growers as to the value of bees in the work of pollination of fruit-blossoms. I know positively that some varieties of fruit are at times entirely fertile to their own pollen, and again utterly sterile to the same. The vigor of the tree must play no small part in this matter. Yet no fact in pomology is better attested than is the necessity of bees in or near the orchard if we are to secure the maximum fruitage.

(To be continued.)

The Premiums offered this week are well worth working for. Look at them.

Management for Producing Extracted Honey.

BY C. DAVENPORT.

FOR the last seven or eight years I have run from 30 to 40 colonies for extracted honey, and intend this season to increase the number to over 100, and I will describe the plan or method on which they will be run, and tho this method might not answer for some localities, it is the one that will work here, I believe, and secure the most surplus with the least work.

While it is generally claimed and conceded that it requires less work and skill to produce extracted than comb honey, I have not found this to be altogether so. If I had for the last few years I should have been producing extracted in a much larger way, and would do so now. The first season I ran a number of colonies for our product in the liquid form, it seemed to me that it required fully as much, if not more, work as well as skill to produce a first-class article of extracted honey, as it did fancy comb honey. But I have learned enough about this branch of our pursuit since, so that I can now produce extracted with considerable less work than comb.

Now the question may occur to some, why I started and kept on producing extracted honey, if, with me, it required as much work and skill as it did to produce comb honey. There were a number of reasons for this, and two of the principal ones I will explain. One was that there was a local demand for extracted honey, at a better price accordingly than there was for comb honey. I had, and have at present, a still larger number of customers who prefer honey in the extracted form, many of them preferring it because it is cheaper—in fact, I have a good many customers who use a large amount of extracted honey every year, and pay a good price for it, compared with the price of comb honey, who would buy but very little if any comb honey, because they could not—or at least believe they could not—afford to. Others actually like it better in the extracted form, and again some who are very fond of candied extracted honey care very little about comb honey. Personally, I much prefer it in this form to comb honey.

I used to extract a large amount of honey from the brood-chambers late in the fall, then feed sugar syrup for winter stores. At that time there was a good profit in doing this, and the bees seemed to winter fully as well on granulated sugar, as it was then made, as on natural stores, and the honey thus obtained, tho it might be somewhat mixt, was always thick and rich. But the price of our product dropt so low that there was no longer profit in producing extracted honey in this manner, tho I had a trade for it already workt up—a trade that, as I have explained, would not take comb honey in place of extracted.

Another, and more important reason, was that about that time (and I have seen no reason since to change my opinion) I became convinced that more money could be made from a large yard by running part of the colonies for extracted honey, for here a range may be overstockt during the forepart and latter part of the season, and still not have enough bees to gather what nectar there is during clover and basswood bloom. This is not the case every season, but on an average it will hold true two seasons out of three, and a colony that is being run for extracted honey can gather considerably more nectar than one being run for comb honey, for these reasons: A larger number of colonies can be profitably kept in one yard if part of them are run for extracted, than could be done if they were all run for either comb or extracted honey. After carefully repeated experiments, some of which I have described in these columns, I know, if I know anything about bees at all, that more extracted honey can be secured here if the queen is confined by zinc to the lower story of a hive not larger than the 10-frame. The reason for this is, that with a larger brood-nest an immense force of bees are reared out of season, to be producers, but are, instead, consumers. I know that this matter of rearing bees out of season has been ridiculed by some, but here it is a more important matter—one that to ignore may mean the loss of a number of thousand pounds of surplus honey with a large yard, each season. I am aware that this is a strong assertion to make, and that it is likely to be disputed by many able ones in our ranks, but it should be borne in mind that I make this claim only for my own locality, and for others where the flows are similar to what we have here, relatively to the season.

It may be of interest to the newer readers of this journal, for me very briefly to go over the experiments I made to find out whether it was more profitable to allow more than one story for a brood-nest. These experiments extended over a number of seasons, with slightly varying results, owing to the varying conditions of the seasons, as well as that of the bees. But without any exception they all showed that a brood-nest here could be so large that it would reduce the amount of surplus extracted honey that could be obtained; besides, these large brood-nests, especially the unlimited ones, entailed much more work to get what surplus there was, and to reduce or get the bees into one story again for winter.

My method was, each spring, to select 30 or 40 colonies as nearly equal in strength as possible, and divide them into lots of 10 each. The queen in one lot would be confined by zinc to one story; those in the second lot would be allowed two stories for a brood-nest; while the queens in the third lot were allowed their will in 3 or 4 stories. Some lots were in 10-frame hives and some in 8-frame, and, so far as surplus honey was concerned, these two sizes of frame made but little difference either way. But with the plan I now practice, there is considerably more swarming where the queens are allowed 10 frames than there is when they have only 8 for a brood-nest. When the queens are allowed two brood-chambers there will be here, in a good season, about half of them that will swarm, and some seasons as large a percent of swarming will take place when the queens are confined to 10 frames; but with only 8 frames for a brood-nest the swarming will not be over 10 percent—it has been less with me the past two seasons. It is true that both seasons were poor ones, still there was enough honey gathered so that nearly 30 percent of the colonies that had 10 and 16 frames for a brood-nest swarmed, or tried to do so.

Southern Minnesota.

(To be continued.)

Longer Tongues and Larger Bees, Etc.

BY ADRIAN GETAZ.

BEES with longer tongues is the topic of the day. Measure the length of the tongues of the different colonies of bees and select for breeding those with the longest-tongued bees, if I can use that expression.

Well, to begin with, I doubt about the exactness of the measurements given by Mr. Ernest Root and a few other experimenters. It seems to me that the difference between the tongues measured is too great. There is hardly any difference in the size of the bees and in the different organs and parts of them; and I don't see how the tongues could make such striking exceptions, the measurements varying between 13-100 and 23-100 of an inch. The tongue of a bee is very near as elastic as a man's tongue. How could you measure exactly the length of a man's tongue which can change its length, width and shape in all sorts of different ways? And it is nearly so with bee-tongues.

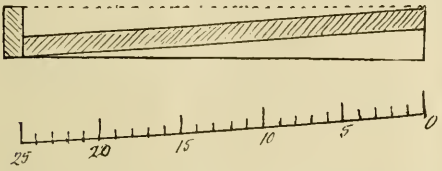
The method employed to measure them, is to chloroform the "subjects," which makes them extend their tongues, and measure them with calipers. But what proof have we that they all extend their tongues to the same extent? None at all.

Again, there is a considerable difference between the length of tongues of the different bees of a colony (when measured by the above-described process), and even admitting that the measurements are correct we can measure only a few bees—say 20 or even 50 out of at least four or five thousand bees of a colony. We may have measured some of the shortest in one colony and some of the longest in another, and failed to reach the proper average length, or rather maximum length, for this would be the important item to obtain.

I do not say that this method of measurement should be discarded, but I think necessary to have some indirect way to check it, and ascertain to what depth the bees of each colony can reach for the honey in the flowers. For this I think an instrument as here represented would be the best. It is simply a trough 4 or 5 inches long and not more than ¾-inch wide inside. The top is made of wire-cloth thru which the bees can suck the syrup. The depth is from ¼ of an inch at one end to nothing at the other, forming an incline. A scale is markt on the bottom dividing it by transverse marks in 25 parts graduated from 0 to 25, commencing at the end where the depth is nothing. To use the instrument, fill it with syrup or thin honey thru the wire-cloth. Place it in an empty super on the top of the brood-nest or the super that may be already there, being sure that it is level. This can be easily done by placing it so that the syrup comes even with the wire-cloth over the

whole surface. When the bees have taken all that they can, notice (without disturbing the instrument) to which division the syrup reaches. If it reaches, for instance, to the 17th mark, it shows that the length of tongue of the bees, or rather the distance from the wire-cloth to the level of the syrup, is 17-100 of an inch, and since the 25th division corresponds to a depth of ¼ of an inch that is 25-100.

This instrument will give a depth or length of tongue rather too long, as a portion of the bee's head above the tongue may go thru the wire-cloth. From a practical standpoint, it is immaterial whether we get the exact length or not—what we need to know is the comparative length, or in other words, which bees can reach the deepest. If several instruments are used, and the results to be compared, it will be necessary to use the same kind of wire-cloth on all, for the reason that a greater part of the bees' heads



could go thru a larger wire mesh and enable them to reach deeper. The instrument should be constructed accurately, waxt or paraffined so as to prevent swelling of the wood and possible distortion. Care should be taken that the wire-cloth should lie evenly all over, and for that reason the instrument should not be wider than ¾ of an inch, otherwise it would be difficult to prevent the cloth from bulging in places. When it comes to measure to a precision of 1-100 of an inch, the instruments used must be accurately and carefully made.

LARGER BEES FOR LONGER TONGUES.

All other things being equal the largest bees should have the longest tongues. And to have the longest tongues possible, it will be necessary to have the largest bees possible. In fact, the main argument presented in favor of a larger race of bees is their presumed ability, thru a longer tongue, to reach the nectar of flowers too deep for our present race of bees, especially the red clover.

There would be another advantage in having larger bees. That is, less time lost in going to and coming from the fields. Suppose you had a pile of materials to remove—say 2,000 pounds—and want it carried to a distance of 500 yards. If you employ a man able to carry only 50 pounds at a time he will have to make 40 trips—that is, walk a total distance of 20,000 yards. If you take a man able to carry 100 pounds at a time, he will have to make only 20 trips, therefore to walk only 10,000 yards. It may take him as much time to load and unload his 20 loads as it takes the smaller man to load and unload his 40 loads, and he may not walk any faster, but even then, he would be ahead of the time necessary to walk thru 10,000 yards. So it would be with larger bees—they certainly would lose less time in going and coming.

EFFECT OF COMB FOUNDATION.

A few years ago the question was askt, "Has the size of the foundation cells any influence on the size of the bees reared in them?" To my surprise nearly all the "wise men" answered, "No, none at all." And yet it is self-evident that no bee can be larger than the cell in which she has been reared, for the simple reason that all her growth is done when she emerges, and her skeleton already formed and too hard to expand any. The abdomen and other soft parts can and do expand some after the emergence.

All the above-mentioned "wise men" knew good and well, that the drones reared in worker-cells are much smaller than those reared in larger cells.

Before foundation was used there was quite a difference between the different races of bees in regard to size. There was a race of black or brown bees in Holland much smaller than the common German bees. The Carniolans were distinguisht by their large size. Among other figures we have some of Cheshire giving the weight of 20 Cyprian bees at 28 grams and of 20 Carniolans at 40 grams. We don't hear any more about a difference of size, now. Why so? Just because foundation of a universal size is universally used—5 cells to the inch—and with a uniform size of cells has come a universal size of bees.

The first step will be to use a larger size of cells. But that is not sufficient. The size of bees will not increase at once, simply by giving larger cells. It will be necessary to select the queens giving the largest bees, and keep on breeding for the largest all the time. One drawback will be that with a larger size of cells there may be an over-production of drones. The only way to prevent it would be to increase the size of cells, at first of only a small fraction, and later, when the new race is establisht, make another increase.

Several years ago, a distinguisht French apiarist, Mr. Drory, gave a number of queens only drone foundation. A number of them reared worker-bees in those sheets, but some others only drones. I have not the details of the experiment. Judging by what has been done with horses, dogs, fowls, etc., we might think it possible (and perhaps it is) to create a race of bees even larger than the Apis Dorsata. We shall name it (if it comes) "Apis americana."

Knox Co., Tenn.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Plan for Comb Honey and Increase.

1. What do you think of the following proposed plan for comb honey and increase?

The staple honey-plants for this locality are the wild red-raspberry, and buckwheat. Build colonies up as strong as possible even to the point of swarming, for the raspberry bloom, then divide by taking the queen, and say three frames of sealed brood, from the parent hive, place them in the new hive with a couple of frames of foundation, and place the new hive on the stand of the old one, removing it to a new stand and in the course of 24 hours introduce a Carniolan queen. We have here forage for bees at all seasons; basswood is not sure for surplus. The present bees are Italians, which we mean to keep up, the only object in putting in the Carniolan being the *reputed* prolificness.

MICHIGAN.

ANSWER.—Your plan and your surroundings are so much out of the line of my experience that I do not feel very competent to answer. However, I am not very much afraid of doing harm, for sharp eyes are ever on the watch to correct what may be wrong. For those sharp eyes I am thankful, for I well know that eyes may be very sharp and at the same time very kindly.

Your plan is evidently intented to obviate swarming, and yet I am a little afraid it might not be successful in general. A more severe depletion might be needed, and I should advise trying at least some colonies by leaving with the queen on the old stand not more than one frame of brood, filling up with frames of foundation, and brushing the bees off about half the frames removed. Then two or three days later take away their remaining old frame of brood.

If you have never tried Carniolans, it might be well for you to try giving them to only part, so as to compare their work with that of your other bees.

A Beginner's Questions.

1. Where can I find the queen-cells? Also tell me other things which I, as a beginner, do not know.

2. Is buckwheat a good honey-plant?

3. I hope soon to be able to purchase "A B C of Bee-Culture," or "Langstroth on the Honey-Bee." Which is the better for me? MISSOURI.

ANSWERS.—1. From the way in which you ask the question, it is possible that you think there is a cell in the hive that the queen keeps for her own, perhaps retiring to that cell every night to go to sleep. So far from this being the case, it is true that after the young queen emerges from her

cell she never enters it again, and it is not a great while after she leaves it until the workers tear it down all but the base or enough to make a concave hemisphere. If you look into a hive at this time of the year, it is not likely that you will find a queen-cell in it, but you will be likely to find quite a number of cell-cups, some of them the remains of queen-cells from which queens have issued, and some of them cups that the workers have started and never finisht, and most of them they never will finish. If you look into a hive at the time a first swarm issues you will find 5, 10, 20, or perhaps more queen-cells with young queens in them, and they may be in any part of the hive. Generally they will be found near an edge of a comb, possibly right among the worker-brood near the center of a comb where there happens to be a hole or an irregularity. Sometimes you may find a queen-cell not on the comb at all, but built directly on the wood of the end-bar, but this is very rare.

You must excuse me from attempting to tell you all the other things that you as a beginner do not know, that is, if the list of unknown things is as long as my list was when I was a beginner. It would take many pages of this journal to contain the answers to all the questions I had, but most of the desired information can be obtained from the excellent text-books we now have.

2. Buckwheat is one of the best honey-plants. It does not yield the best honey, for the honey is very dark, and most persons do not like it so well as honey of milder flavor, and yet some prefer buckwheat honey to any other. It is, however, a somewhat fickle yielder, one year yielding an abundant harvest and the next yielding nothing.

3. If you get either you will have a treasure, and will find in it so many good things that you will wish you had the other also, with Prof. Cook's excellent work added.

Introducing a Queen to a Colony that Has Just Swarmed.

I would like to know, just after a swarm issues, how to give the old or mother colony a laying queen.

WISCONSIN.

ANSWER.—Give the queen in an introducing-cage, and there may be no trouble without any further attention. It will be safer, however, to destroy all queen-cells in the hive.

Putting Bees Out of the Cellar at Night.

Is there any objection to putting bees out of the cellar at night? WISCONSIN.

ANSWER.—There is probably no difference between putting bees out at night and putting them out the following day. That is, if you are sure you will put them out to-morrow morning, you may as well put them out to-night. But you can not always be entirely sure at night that you will want to put them out in the morning. For the weather is sometimes so changeable that between night and morning the temperature may sink so many degrees that it will not be safe to have the bees out. When bees have been in the cellar all winter and are put out-doors, they are not as prudent as they might be, and will fly out in weather when large numbers of them will be chilled and be lost. If you could be sure of good weather the next day, it would be all right to take out bees at night, but on the whole it is more prudent to take them out when you know they can fly with safety within ten minutes of being taken out.

Uniting Colonies and Introducing Queens.

1. I have some colonies which I wish to unite. When do you consider the best time in the spring for doing it?

2. Which plan is the best?

3. Would it be advisable to introduce a new queen at the same time? BRITISH COLUMBIA.

ANSWERS.—1. If you intend to unite colonies in the spring, it may be safely concluded that it is because the colonies are not strong enough single. If you have two colonies, each having bees enough to cover two frames of brood, they ought when united to be able to cover at least a little more than four frames of brood. At all events, when the two are united you will have six frames of brood sooner than you would have done if you had kept the two separate. So you can easily see that you will gain nothing by waiting, and the sooner the uniting is done the better. Unite before the bees begin to fly, and there will be less danger of the bees of the removed colony going back to the old place.

2. There is little danger of fighting if you alternate the frames with their adhering bees, first a frame from one hive then a frame from the other, and so on. If you unite before the spring flight, there is little danger of trouble if you simply put one set of combs in the hive beside the other. In any case, if you see any bees doubled up in the death struggle on the bottom-board after having been stung, or any other sign of fighting, give them smoke till they promise to be good, as Mr. Root says. If they get bad again, smoke them again.

3. Yes, you can introduce a queen at the time of uniting if you kill the other queens, altho on account of the greater difficulty of getting queens in spring, and the greater cost, very few queens are introduced in early spring.

Excellent Alfalfa Honey.

I have mailed you a sample of honey that I think to be first quality, and would like to have your opinion.

UTAH.

ANSWER.—I have no quarrel with you for calling it first-class. It is very white indeed, and altho very mild in flavor, like all alfalfa honey, what flavor there is is excellent.

Convention Proceedings.

Report of the South Dakota Convention.

BY E. F. ATWATER.

The annual convention of the South Dakota State Bee-Keepers' Association met at Yankton, Jan. 25, 1901. More than half the members were present, and all were very enthusiastic, considering the past poor honey season.

Many interesting points were brought out in the discussions; a short talk by Daniel Danielson, was especially interesting, his subject being "Migratory Bee-Keeping." Some years there was a good profit in moving bees from one locality to another; in other years it would be a loss, as the honey-crop can not be foretold. In moving bees they should have an abundance of ventilation, and the hauling should be done at night, when possible. Cold water soust down thru the hives helps to bring the bees thru in perfect condition, without loss of energy or numbers.

President Thos. Chantry called attention to the real necessity of maintaining our organization. Our association protects its members, as we have joined the National Bee-Keepers' Association in a body. If all the State bee-keepers' societies would join the National in a body it would be a great help to the National in its great work of fighting adulteration, and protecting the bee-keepers of this country. All the bee-keepers of the State should get in touch with the State association, as by so doing they get full protection from the National also. Many of our members have saved several times their membership fee, in buying their supplies thru the association.

A paper on foul brood—that most destructive of bee-diseases—was read by E. F. Atwater. By special request, the Rev. Dr. Matson, formerly of Ohio, spoke briefly on the "Home of the Honey-Bees," and of the members of the Root family. His address was very enjoyable.

E. F. Atwater was made Association foul-brood inspector for South Dakota.

At the evening session J. J. Duffack gave a report of the great National Bee-Keepers' Convention, at Chicago, bringing out very prominently the great need of a suitable National pure-food law.

A paper by Mr. R. A. Morgan, formerly an extensive Wisconsin bee-keeper, toucht on the value of honey as a food, its wonderful keeping qualities as compared with butter and other foods, the causes and processes of swarming, and queen-rearing.

Mrs. John M. Downer spoke of the convention of the Horticultural Society, at Sioux Falls, S. D., and of the grow-

ing sentiment in favor of holding the bee-keepers' and horticulturalists' meetings at the same time and place.

In the question-box and answers, glass was decided to be the best package for retailing extracted honey. A point brought out that is not well understood by the general public is that practically all granulated honey is *pure*, and easily liquefied by gentle heat.

In regard to honey-plants, catnip was thought to yield very little; sweet clover is the great honey-plant for South Dakota. Fifteen acres of sweet clover supported 30 colonies, and each colony gave about 50 pounds of surplus honey. It was thought that 70 colonies might have given as large yield per colony, as 30 colonies did not seem able to work the entire field.

Increase by dividing was generally preferred for the experienced bee-keeper.

Attention was called to the good qualities of sweet clover hay, but horses and other stock must be taught to eat it, and it must be properly cured.

Thomas Chantry was elected president; J. M. Hobbs, vice-president; J. J Duffack, general manager, and E. F. Atwater, secretary.

The committee on resolutions reported as follows:

Resolved, That the South Dakota State Bee-Keepers' Association call the attention of all other State bee-keepers' societies, to the benefits of joining the National Bee-Keepers' Association in a body, thus increasing the membership and power of the National Association.

E. F. ATWATER, *Sec.*

The Vermont Bee-Keepers' Convention.

BY M. F. CRAM.

The 26th annual meeting of the Vermont Bee-Keepers' Association was held in connection with the Vermont Horticultural Society, Dec. 5, and 6, 1900, at Brandon, under the anspices of the Brandon Grange, which furnisht hall, lights and music.

The meeting was opened by Pres. R. H. Holmes, and prayer was offered by H. L. Leonard. The minutes of last meeting were read and approved. The Secretary's and Treasurer's reports were read and approved.

Pres. Holmes' address was delivered without notes, and as the secretary is not a shorthand reporter, he caught only some of the more important points. Mr. Holmes said that Vermont produced 1/33 as much honey as California, where the honey is mostly extracted, but Vermont honey is mostly comb. What Vermont lackt in quantity she made up in quality. Vermont leads the country in quality of horses, butter, apples, sugar, etc. Addison County produced ¼ of all the honey in Vermont, but he thought honey could be produced in other places at a profit. The public were not informed in regard to the method of producing honey, but were learning. People have to learn to keep bees, the same as any other business, in order to make a success of it. There is no luxury that people like more than honey. Honey is something that would keep—it need not be sold until the producer is ready. Altho the last two seasons have been poor, bee-keepers are not discouraged. We should have better seasons soon. Eternal vigilance is the price of success. We are met to tell each other of our success and failure, and the points of interest in our pursuit.

A discussion followed on the peculiarities of the past two seasons. Mr. Leonard said Rutland County had had better seasons than some other counties, but the past two seasons had been very poor, 1899 being the poorest season without any exception for 50 years.

The past seven years have been poor for honey-production. Mr. Cram said that 1860 was the poorest season he ever knew—about every colony in Addison died.

Mr. Leonard had had seasons when his colonies averaged 100 pounds each, but they had not done so for the past seven years. We have made great strides in the management of bees in the last 50 years.

Mr. Larrabee spoke about the bees building comb when the season is dry; also that the bees capt the comb more readily in dry seasons than in wet ones.

Mr. Crane said one class of flowers would produce honey one year, and the next year they would not, but some other would take their place. The past season was the best for 40 years, thru fruit or apple bloom.

Mr. Terrill, from Lamoille County, said that bees did better last season than in 1899. He got no basswood honey tho it bloomed full.

M. F. Cram then gave his method of getting a crop of honey in a poor season, which was in reality the same as in good ones. The first thing he did was in the month of July the year before, and that was to see that each colony was put, and kept, in such condition that it would have a hive well stockt with bees in September or the first of October. He could not let his bees swarm later than June and get good results from them the next season. There was generally a honey-flow some time in the season, and in his locality it was usually in June. He had his colonies strong early, or he "got left." His main honey-crop is from raspberries. He used a larger hive—(9 frames) about one foot square. We didn't very often lose any bees in winter, not more than one or two percent, but in the fall he had doubled up and had some empty combs. In the spring he has had some colonies so strong that they would occupy two hives in good shape—one empty hive on top of a strong colony. The queen would occupy both brood-chambers. He had one queen enter an empty brood-chamber and lay 11,000 eggs in three days. When some other colony swarmed he drove the bees all down out of the top brood-chamber, and then hived the new swarm into that, putting on sections, and also putting sections in the place of the removed brood-chamber, and both colonies would push things with vigor. He wintered his bees in the cellar with no upward ventilation, and didn't remove them from the cellar until they could gather pollen.

Mr. Crane said it was well for every one to study his locality, and be ready when the flow comes.

The chairman appointed the following committee on nominations: G. H. Terrill, A. J. Vail and Lewis Bascom.

QUESTION BOX.

QUES.—Can bees make comb out of sugar? ANS.—Yes.

QUES.—Is the honey as good for comb building one time as another? ANS.—Yes; but the temperature is not.

What is the difference between honeycomb and honeymoon? ANS.—Honeycomb is composed of a lot of small cells, and honeymoon is one big sell.

Does alsike clover produce honey the first season? ANS.—Not in sufficient quantities to produce surplus honey.

How are surplus combs stained?

Mr. Larrabee said they were stained by wet weather, also by using old comb where the bees had died.

Mr. Crane then spoke on travel stain. It is caused by several things, one is using foundation to cap with: another cause is pollen. Sulphur will remove it. Propolis used to seal the combs could not be removed, but could be lightened in color. He had made a little tent or lean-to, and had used it for bleaching. It was 10x13 feet. He could bleach 1,050 sections at one time.

The committee on nominations reported as follows: president, J. E. Crane: secretary, M. F. Cram: treasurer, H. L. Leonard: vice-presidents: Orange County, T. H. Edson; Lamoille, E. K. Seaver; Chittenden, O. J. Lowrey; Rutland, V. N. Forbes; and Addison, L. O. Bascom.

All were elected.

Mr. Crane gave his paper on pickled brood, which the secretary failed to get, but the disease is not serious in Vermont.

Mr. Leonard then gave a talk on the loss of queens in mating. If separated far enough they would not be lost in a house apiary. If there is room to place one hive at every other place, it will help.

Mr. Holmes has a house-apiary. He painted up and down the building 6 feet wide in red, white and blue, and lost 16 out of 26 queens. There was no difference in loss whether they were at the end or middle of the building.

Mr. Crane had changed the entrance and it had helpt. He had noticed that if some object were placed near the hive it had helpt about the loss in mating.

Mr. Leonard had trouble with bees leaving their hives and going in where there was a queen, they in the meantime being queenless.

Mr. Holmes had had swarms mix in his house-apiary on the side of the building.

A vote of thanks was extended to the Brandon Grange for the use of the hall and for music.

The time and place for the next meeting were left with the secretary to confer with the secretary of the Horticultural Society, to meet as they could arrange.

M. F. CRAM, *Sec.*

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

The Afterthought.

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

THREE "WIVES" IN ONE HOUSE.

Of course we are Schmidtten with desire to know how three queens to one colony are secured, page 71. Was the information withheld on purpose to make us cry for it? We can *see* that there are three stories and three entrances. I'll guess that the mid-story has zinc both above and below, and a partition across the middle. But then, but then; it's one thing to show us how to have three wives in one house without any quarreling, and quite another thing to prove that such an establishment is wise or profitable. I can see that a *queen-breeder* might like to have an excess of tested queens to draw upon.

WANTED—A NONBUSTABLE HONEY CAN.

But, Mr. Aikin, I don't want to speak well of a honey-can that will burst unless we wait for the honey to candy before we ship it. Better we insist on a can that will carry liquid honey to market. First you know, we shall learn the art of keeping our honey liquid pretty much all the time. A nonbustable can will not offend at all your lovers of the granulated article—or steal Mr. Doolittle's thunder and send it to 'em in a *box*. Mr. A. is right on the main point, however. Make your plan and your price according to your situation, and don't be bluft out of it by the brother who has a fancy trade, and who wants you to try the impossible task of bringing non-fancy people up to its lines. If you want your honey eaten daily on the poor man's table, you must compete (to some extent) with home-made sugar syrup. If you can see your way clear to do without the poor man's custom, why, that is your privilege. Page 74.

BROOD-COMB 25 YEARS OLD.

Editor Root's account of the 25-year-old comb is reassuring, and also just what we might expect. Presumably the extra thickness at the bottom is more or less mixt with dried food. I strongly suspect that bees in winter supply themselves with a small amount of nitrogenous food by chewing these dried masses—one reason why old comb winters bees better than new combs—and also the origin of the little heaps of fine stuff we see on the hive-bottoms. *Possibly* in a land where there was no winter the bottoms would continue to thicken. Even with us an occasional colony does plaster in their cells with black-looking wax till the comb in places is nearly a solid mass. Perhaps that may be much more common in Europe than here. Page 84.

ENTRANCE-FANNING AND QUEEN-FINDING.

And so it is not at the side where fanning bees are, but at the other side that we are to expect the queen. I made and propagated a very natural mistake: so now let us get our heads level on the subject. By the way, McNeal's correction would be misunderstood by a beginner. Strictly speaking, bees do not force air into a hive: they fan it out, and other air follows in by the easiest route. May it not be that it is not the bees but the queen that determines this whole little matter? She feels a current of air, doesn't like it, and directly goes elsewhere. Page 76.

HOW MANY BEES DIE IN WINTER.

On page 88 a beginner asks how many bees die in winter: and Dr. Miller sagely answers, "A whole lot." This suggests, for more than the thousandth time, that we greatly need some common agreement as to what we mean by "the winter." Most of our chunks of wisdom are more or less reduced to fog by the indefiniteness of that term, if they happen to contain it. A colony of 16,000 bees might get thru December, January and February with a loss of only 1,000—and yet "every man of them" die before May 10th. In this case one man would say, "Only a small proportion of my bees died in the winter;" and another would say, "The winter killed 'em, all dead as nails;" and both these men would be telling the truth. Can't we fix things, brethren, so a man can tell a lie when he tries? We seem to have *three* winters. The greater one begins when daily flight ceases, say Oct. 10, and ends when they begin to build up in numbers, say May 1st. (One bad winter I noted that May 6th was the lowest point with my bees.) The lesser winter is of course the three months usually designated as "winter months.' 'Then there is an intermediate sort of winter which has its beginning Dec. 1st, and its end anywhere the season and the speaker may happen to put it—usually at the warm spell which brings in the first pollen—sometimes in March, and sometimes in April. Somebody tell us what we would better do about it.

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GENERAL ITEMS

Good Report—Bee-Hive Incubator.

I started in the bee-business last spring with 11 colonies of bees, and put 26 into winter quarters in the cellar, and they seem to be wintering all right. I sold three colonies during the summer to an old bee-keeper, and got about 650 pounds of honey all in one-pound sections, which I sold in the home market at 15 cents per pound.

My bees are all "well-bred." I bought some queens last summer from some of our noted queen-breeders, and I don't see much difference between them and my old stock.

I am going to try using the bee-hives as incubators the coming season. My father used to tell me not to "count the chickens before they were hatcht," so I will not say how many I will have.

We have had nice weather up to yesterday, when we had a big storm. I can not get along with the American Bee Journal.

G. W. KREAMER.

Audubon Co., Iowa, Feb. 4.

Queen-Rearing.

Mr. Pridgen's article on queen-rearing (page 401, 1900) is very interesting and important to every bee-keeper even if not in the queen-rearing business, but unfortunately I can say with "Apis Mellifica" (page 470, 1900), that I have read it and reread it 50 times, perhaps, hoping it would clear up, but it is still Greek to me. "Apis Mellifica" complains

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only of one passage, but the whole last page is almost a dark cloud to me.

What a splendid gift Mr. Doolittle has in being able to explain his ideas so clearly and logically, and building up in such correct order one thought after the other, in a way that one *must* understand.

I tried Mr. Henry Alley's method of queen-rearing with good results, while I made a failure of Mr. Doolittle's, but I am convinced that it was my own fault. I should like to know, tho, where I was at fault—whether in transferring or in the colony I used to rear the queens. The result always was that after transferring food and larvæ into made queen-cells, inserting them into an upper story over a queen-excluder, with a good colony and laying queen below, the food and larvæ would be gone and the queen-cells empty the next day. The excluder covered only a part of the colony below. Could this have caused the trouble?

I do not advocate increase by swarming, but prefer to build up nuclei and keep down the swarming-fever. J. NOELTING.

Argentine Republic, Oct. 10, 1900.

Bees Wintering Well.

The weather is fine, and no snow as yet. Bees appear about normal in the cellar.

Sioux Co., Iowa, Feb. 21. F. W. HALL.

Poor Seasons—Hive for Extracted Honey.

The honey-business has been rather discouraging the past two seasons in this section, on account of the dry weather. Bees stored very little surplus, and a great many are dying of starvation this winter; but we are looking for better things in the future.

Which is considered the better for extracted honey—the 8-frame or the 10-frame Langstroth hive? W. S. SHIELD.

Pierce Co., Wash., Jan. 31.

Has a $100 Queen.

I had one queen last season that helpt me to clear $100, and I can prove my statement. From her colony and the two swarms which issued from it, I secured 325 pounds of fine honey between March 1st and Sept. 1st. I sold the honey for from 30 to 40 cents per pound—Mexican money—so you will plainly see that I had a $100 queen.

Bees do well here, but the demand for a good article is very small. Extracted honey brings from 10 to 25 cents per pound, and strained honey from 4 to 6 cents—that is, in "Doby dollars." W. S. ALLAN.

Mexico, Feb. 11.

Report for 1900—Two Queens in One Hive.

My crop of honey for 1900 was practically the same as that of the two preceding years—an average of 40 pounds per colony. I disposed of all of it in the local market at 14 and 15 cents per pound. I also increast the number of colonies one-third.

We all winter our bees out-of-doors here, and never lose any unless they are very weak.

By way of experiment I am wintering two queens in one hive, with a division-board between the small colonies. These are in the cellar. A. B. CROSS.

Meigs Co., Ohio, Feb. 4.

Feeding Bees in Box-Hives in Winter.

On page 88 some one asks how to feed bees in box-hives in the winter. Like questions are so often askt that I am tempted to give my practice, which seems to conflict with the answers of others.

I have several colonies in straw-hives that are short of honey. I have feeders made of baker's tins, 9x12x2 inches, with thin strips running lengthwise to keep the bees out of the feed. I then make a rim two inches wide, the size of the bottom of the hive, and place this on the bottom-board, with the feeder inside of it. I put the hive in the cellar, or an adjacent warm room, at night, then fill the feeder with very warm syrup, made of 10 pounds of sugar, 5 pounds of water, and 5 pounds of honey. I then put the hive on the rim over the feed, and give them upward ventilation, to let off the steam or moisture generated by the bees. If the colony is large enough to be worth wintering, the feeder will be empty the next morning. The next night repeat this feeding. I would not advise feeding more than twice in this way, as that is all the unsealed feed a colony ought to have in the hive at this time of the year. If one desires he can bore six one-inch holes in the rim, and tack on wire-cloth, then close the entrance to the hives while feeding.

If I have a colony in a Langstroth hive that needs feeding, I simply put the feeder on top of the frames with two cobs across it to keep the covering up, fill the feeder, and cover all with the cushions.

I fed bees successfully years ago with this plan, and have fed several colonies the same way in my basement this winter, where the temperature was at least 60 degrees above zero, and have not lost a hundred bees.

While this method is perfectly safe and satisfactory in the early winter months, it would not do at all to try it in the spring months when the bees have become filled with excrement and uneasy for a flight.

GEORGE W. BASSETT.

Washington Co., Vt., Feb. 10.

1900 Almost a Failure—Laying-Workers.

The year 1900 was almost a failure for Missouri bee-keepers. The last three seasons have been very poor, but we are looking for better things next season.

I put 19 colonies into winter quarters in 1899, and did not lose any of them. In the spring I increast to 28 by dividing. Bees swarm very little here, so I did not have any natural swarms.

I winter the bees on the summer stands, with chaff cushions over the brood-frames.

When I examined the bees last spring I found one colony with laying-workers; I gave them eggs from another colony, but they would not start queen-cells, so I gave them more eggs, and changed places with another strong colony, and the strange bees started cells properly, and reared a queen. This colony is now one of the best I have.

My bees stored honey enough for winter stores, but very little surplus. I like the American Bee Journal very much.

R. COYLE.

Vernon Co., Mo., Dec. 20, 1900.

Bee-Exhibits at Farmers' Institutes.

I take great interest in reading the American Bee Journal, and took special pairs to have my last year's numbers displayed at our county "Farmers' Institute." We secured space for an exhibit of bee-supplies, fixtures, etc., as well as bee-literature, which was of interest to many. We hope to see good result from our efforts to bring before the people the merits of bee-culture. I see no reason why the honey interests of our country should not have as much attention paid to them in our institutes as is paid to horticulture or poultry. To be successful in horticulture we must call bee-culture to our aid.

Many often ask the question, "What's the matter with my bees?" and doubtless those very persons have never taken a bee-paper in their lives, nor even read one.

CYRUS DOUGLAS.

Johnson Co., Nebr., Feb. 8.

The Cry of Hard Luck in Cuba.

It seems very strange to me that altho everything I read in the bee-papers about Cuba is full of foul brood and all sorts of bad things, yet the writers of these articles are buying new hives by the hundreds. It is hard to reconcile the theory with the practice. One of my friends who talks most discouragingly about it has bought 500 new hives this season; another who has recently publisht a very pessimistic article is putting in 350 more. Personally, I have always advised my

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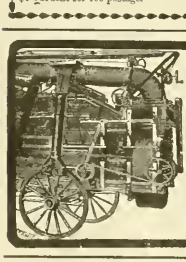

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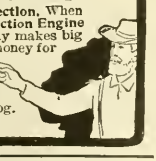

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friends not to come here, yet I have just received 500 new hives with some "trimmings."

Some time ago it was stated in the Bee Journal that a subscriber had made a successful shipment of 200 colonies from the States, but in a more recent number he hints darkly at "diseased bees"—yet he has 325 more hives on the way here. And so it goes.

The representative of one of the big bee-supply houses spent a vacation here, and sold thousands of hives, tho we are all crying out that we can not make bee-keeping pay at the present prices—2¾ cents per pound for all kinds, from white to black. The only reason I see for this is that we feel that the profit to the colony is so small that we must have a great many of them in order to make it pay.

I have just returned from a trip over on the north coast. We went for 30 miles thru almost virgin forests, looking for good locations, but it would be impossible to get honey out of there for there is no road. The most of the way we carried our wheels down a river-bed, or followed the paths the deer had made along the ridges. For 25 miles we traveled entirely thru sugar-cane fields, which extend from the coast to the mountains—a block of cane 25x6 miles.

The scarcity of good locations is another reason for the cry of hard luck in Cuba.

Cuba, Feb. 4. HARRY HOWE.

A Fair Report for 1900.

Last fall I put 66 colonies of bees into the cellar in good condition, and secured 1,500 pounds of comb honey, which I sold in the home market at 15 cents per pound. I got no increase.

The weather was very dry the forepart of the season, as most of the honey was gathered from fall flowers.

I keep the queens' wings clipt, so I do not lose any swarms, and know just how old the queens are. I make from $100 to $300 out of my bees every year.

I recommend the American Bee Journal to all who keep bees. GEO. H. AURINGER.

Meeker Co., Minn., Feb. 16.

Bees Will Die of Starvation.

The past season, in this locality, was a total failure, and I had to feed nearly all of mine for winter. I know of no one else in this locality who fed the bees, and the report is that about five colonies out of every six will die of starvation. HARRY BROKAW.

Richland Co., Ohio, Feb. 15.

Cleanliness Among Bee-Keepers.

I notice what Mr. Abbott has to say on page 55, in regard to cleanliness on the part of the honey-producers. I can verify his statement as far as some of the California bee-keepers are concerned.

I think if we would all be more particular in preparing our honey for market we would receive a much better price.

We have just had the best rain in 10 years.

C. E. STEVENS.

San Diego Co., Calif., Feb. 7.

Feeding Bees Grapes—Introducing Queens.

I have been askt how to feed grapes to bees, so will here give my method:

I crush the grapes the best I can, then put them in a large pan, tipping one end a little higher than the other, and having the pulp on the highest end; in the lower end I put some grass, or something of that kind, so that the bees will not drown. After they have taken all the juice, they will gradually work the pulp "down hill."

Having a few more queen-cells than I wanted at one apiary, I cut them out, put them in a pasteboard box, making a few holes in it for air, put it over a strong colony, with a queen-excluding board between, and forgot all about it. When I finally thought of it I found that the queens had hatcht, and the bees were tearing away the pasteboard. Since then I have many times used pasteboard for introducing queens.

I once put a comb containing seven or eight

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queen-cells in with about a quart of bees, and when looking after them a few days later I discovered that four of the cells were open, but I could find only one queen. I afterward found the other three in worker-cells, apparently eating honey.

In starting a new colony I put the queen and one frame of brood into a hive, then shake the bees from the frames into the hive, and give the brood to weak colonies. Nearly all the bees given to the queen will stay with her. I also give a frame of brood with a queen-cell or a queen to the field-bees that return; in this way I have more bees, and there is no need to cover the brood to keep it from chilling. B. E. Ginner.

Placer Co., Calif.

Is it an Error?—Another Was.

On page 78, F. J. Gunzel reports 14,000 pounds of honey from 94 colonies, which, as I figure it, would be an average of about 170 pounds per colony. I wonder if it isn't a mistake—something like the one on page 74, first column, where the treacherous type makes Mr. Aikin say, "The cheapest barrel we could buy would cost us $100." J. D. Gehring.

Douglas Co., Kans., Feb. 7.

[Of course, that barrel cost should have been $1.00. Just the omission of the decimal point—that's all.—Editor.]

Bee-Keeping in the Yazoo Valley.

The Yazoo Valley in Mississippi is a very unhealthy part of the country. I was sick there all summer with chills. It is also a very poor honey locality, as it rains too much. My advice to bee-keepers is to stay away from there. The great bee-keeper who was the cause of my moving there has rendered his 250 colonies into wax. About once in six or seven years they have a good honey-flow from the willows along the Mississippi River, and there are only a few places where that is plentiful. Daniel Wurth.

Anderson Co., Tenn., Feb. 4.

Do Bees Select their Future Home Before Swarming?

While wrestling with "la grippe" I have had plenty of time to read the Bee Journal, and have noticed the discussion as to whether or not bees select their future home before swarming. I believe that first swarms always do—second swarms never. First swarms not only select their home, but if it is a tree they clean it out before taking possession.

In 1847, while hunting in the woods near Utica, N. Y., I discovered bees going in and out of a hole in a hemlock tree, and supposed I had found a bee-tree. I went with others the next morning to cut down the tree; it was a sultry morning in June, and before reaching the woods a brisk shower came up, and when we arrived there it was quite cloudy. We could not see any bees about the tree, but we decided to cut it down. As soon as it fell we rusht to the hole to stop it up so that the bees would not get out and sting us. (We knew nothing about bee-smokers in those days.) To our surprise we did not see a single bee. We sat down on the log to rest and eat our lunch; the sun came out bright and hot, and while eating and discussing, and wondering what had become of the bees, we heard a roaring sound overhead, and on looking up discovered a swarm circling where the tree formerly stood. After awhile they settled on one of the fallen branches, and we put them in a box and took them home with us. We always went then, as now, prepared to save all wild bees which we found. We cut down 13 bee-trees the past season, and left seven which we did not have time to cut.

In 1853, near this place, I found a swarm in a large oak-tree or supposed I had. We went the next day to cut it, and found the bees working in and out. As soon as the tree fell we rusht forward to stop up the hole, as usual, but only a few were coming out, and these soon disappeared. We cut the tree open and found only a few bees—they were cleaning out the place, and getting it ready for

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Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3¼ miles apart, and mated to select drones, $1.50 each; untested warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and but few within 5 miles. 28 years' experience. Discount on large orders. Contracts with dealers a specialty. JOHN M. DAVIS,
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512 Mass. Ave., Indianapolis, Ind.

Three Great Potatoes.—Among the catalogs we have recently received is that of L. L. Olds, the well-known potato specialist of Clinton, Wis. Mr. Olds has been in the seed business for 14 years, and makes a speciality this year of three great potatoes: "Pat's Choice"—a splendid variety introduced for the first time last year; "Potato Pingree"—introduced in 1899, one of the very earliest potatoes that grows; and "Vigorosa"—the best yielders of all early potatoes. His catalog is handsomely illustrated from photographs, and gives the lowest prices on potatoes, seed corn, oats and other grains and grasses, besides a full line of vegetables and flower seeds. Mr. Olds' three-fold motto is "Truthfulness—Promptness—Carefulness." Do not fail to send for the catalog. It is free. Please mention the American Bee Journal when writing him.

BEES QUEENS Smokers, Sections, Comb Foundation And all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.

occupancy. Many times since then I have noticed during the swarming season that hives that were crammed full of bees would suddenly be almost empty, and I would censure the one who was caring for them for not attending more closely to business; but in a day or two the hives would be full again, and a swarm would issue. I have known second swarms to go from place to place for a week before settling down to stay, and these were bees which I could positively identify. In the year 1864 a second swarm of Italians belonging to me decampt, and were found 7 miles away, one week after leaving the hive. I knew they were mine, for they were the only Italian bees in the county.

As to bees carrying both honey and pollen, we hunt bees for a living, and I find that those loaded with pollen, and, in fact, all covered over with dust, fill with honey as readily as those without pollen.

D. H. METCALF.

Calhoun Co., Mich., Feb. 8.

Bees Needing a Flight—Propolis on Sections.

Bees have been confined to the hives for quite a long time. They had some small flights in the last three or four days, but I think they are needing a general flight pretty badly. The weather is cold again to-day, and there is considerable snow on the ground.

I would like it if I could find some way to prevent the bees from depositing so much propolis on top of the sections when using section-holders. Who can tell?

EDWIN BEVINS.

Decatur Co., Iowa, Feb. 20.

Bees Wintering Nicely.

I put the bees into the cellar the latter part of November, and did not see them again until the last of January, when I found them to be as cozy and quiet as could be, and the hives were clean and all right. I took the bottoms off, and found the bees clustered below the frames. FRED C. LE FEVRE.

Adams Co., Nebr., Feb. 6.

Mild Winter—Overstocking.

Up to this time the winter has been so mild that most colonies have consumed about all their stores in brood-rearing. This seems to be the case with hybrids and crosses, especially.

The question of overstocking will be settled around this vicinity the coming season, as an ordinance prohibiting the keeping of bees within, or one-half mile from, the city limits, went into effect Jan. 1st. Several bee-keepers have moved near me lately, having about 350 colonies in all.

We have only a light flow from fruit-bloom in the spring, and the prospects for white clover are not very bright. I believe in scattering 10 cents worth of honey-secreting clovers or flowers for every colony. Sweet clover, when started, will spread with amazing rapidity.

J. C. WALLENMEYER.

Vanderburgh Co., Ind., Feb. 7.

Paper-Bag Feeders.

In reply to Mrs. Sarah J. Griffith (page 621, 1900), as to using paper-bag feeders, I will have to admit that I have never tried the scheme enough to know much about it. My first trial was a failure. I poured 5 or 6 pounds of syrup into a large paper-bag, tied the top and placed it on top of the frames in the evening. During the night the bag burst, but there was very little loss, as the hive was raised in front. I next made of light manilla paper three or four small bags that would hold about two pounds of syrup. I then oiled them, filled them, and placed them on the frames. I tried puncturing them on the sides, near the bottom, and when I lookt at them the next morning they were empty, and the bees had enlarged the holes, and were running around on the inside of the bags. That's all I know about it. They might be all right for feeding a colony that was light in stores during the summer or fall, if very heavy paper were used, and the holes made with a check-puncher. For spring feeding the nicest

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Seed Success.—Farmers, planters, gardeners, and florists all over the country have learned to look forward with the confident expectation of finding something unusually good when the annual seed catalog of H. W. Buckbee, of Rockford, Ill., appears. The new catalog for 1901 will not disappoint them, for it excels in variety of seeds offered, and in general make-up even Mr. Buckbee's former catalogs. It is a veritable guide for the planter, because the public has learned in the 25 years in which Buckbee's seeds have been sold, that they can be depended upon, and that the descriptions in the catalog are true. The cover of the book is graced by a handsome picture, the new beautiful Jackmanni Clematis, a hardy, continuous bloomer of early growth, a single plant sometimes producing as many as 5,000 blossoms. Among the specialties for which Mr. Buckbee is having the largest demands this year are the famous Quaker Oats, the hardiest and healthiest oat in existence, free from rust, and a wonderful yielder; his celebrated Great Liberty Field-Corn (first introduced last year), a world-beater in almost every section where corn is grown; Buckbee's Great Western White Dent; the famous Rocky Ford Muskmelon; Buckbee's Mastodon Mangel, and other standard varieties which have been thoroly tested and proved money-makers. The list is too long to give here. Send for his 132-page book and find "the key to success." Address, H. W. Buckbee, Rockford, Ill., and please mention the American Bee Journal when writing.

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VIOLIN—Amati model, choice of 3 colors, dark brown, light red or amber, full ebony trimmed, brazil wood bow, pearl slide, full leather bound canvas case, extra set of strings, rosin, etc., worth $20. My Price $6.27.

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MANDOLIN—Solid Rosewood, 19 ribs; celluloid front; veneered head piece, handsomely inlaid. Elegant French Polish. Patent head, engraved tail-piece. Worth $15. My Price, Only $7. with leather bound case, extra set of strings and tortoise pick. Send for circulars of high grade musical instruments of all kinds.

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Please mention Bee Journal when writing.

way I know of is to pour the syrup in as explained by Doolittle and others.

Feeding on top of the hive is bad practice in early spring, as it is apt to let the heat out of the hive, unless it is well packt on top, and feeding at the entrance is liable to start robbing. Square boxes could be made of very heavy paper, that would be all right and cheap. I tried to make a few of them, but a man is very bungling about such work.

Bees might be fed in the spring by placing an empty super under the hive and syrup put into almost any kind of a paper-bag, and put on the bottom-board. Unfinisht sections left from the previous season are also very nice to use in stimulating a colony. WM. KERNAN.

Sullivan Co., Pa., Feb. 4.

The Swate Fields av Nu York.

There's many a field in Nu York that don't be F. L. Field's, an' many av thim do be swate honey-fields, and do be loikin swate things an' Amerikan things, an' do be loikin the Amerikan Ba Jurnal jist, an' have sinse enuf to spake gintly an' swately whin they have onything to say. The best thing Ould Doolittle cud do (as he's there on the turf) wad be to Doosomthin, an' go at wanst, froze or no froze, an' turn under that Field an' seed it to swate clover, an' let the baze swaten it up a bit wid flyin' over it an' blawing their swate breath on the face av it, jist. Now here beyant the Daddy av Wathers we do be glad to have Ould York sind the Ba Jurnal ivery wake, an' when we are flush we'ull pay the piper, and whin hard up we do be glad to have the Ba Jurnal come an' cheer an' swaten us. Should the toime cum whin we can't git swateness enuf from it to pay, we'ull pay phawt's doo, an' wid a good-by an' God-speed, quit frinds wid all the swate bhoys.

Wid good wishes—an Ould Nu Yorker.

Carroll Co., Iowa, Feb. 8. C. E. MORRIS.

Report for 1900—Rendering Beeswax.

The past season was not a very good one in this locality. I secured about 200 pounds of comb honey from 16 colonies, spring count, and increast only one. They all have plenty of stores for winter, the hives averaging over 50 pounds each when put into the cellar. What honey I had to spare I sold in the home market at 15 and 16 cents per pound.

I will give my experience in rendering wax from old combs. I pounded and rubbed the old combs into fine bits, until they lookt like pine sawdust, then I weighed the crusht combs, and found that I had 14 pounds; this I divided into two equal parts, put into bags and soakt for 48 hours, the water being changed twice, and some of the dirt was squeezed out. I put one bag into an iron kettle partly full of water, and boiled it for some time, then I took it from the stove and squeezed it. I repeated this operation three different times, until all the wax was extracted. The 7 pounds of comb made 49 ounces of clean wax, or 43¾ percent wax.

The 7 pounds put into the solar wax-extractor, and left in the hot sun at a temperature of from 80 to 90 degrees for about 10 days in June, made 15 ounces, or 13½ percent wax. The slumgum was taken out of the extractor and put into a thin cloth bag in the kettle, and treated the same as the other bag. The slumgum gave 28 ounces of wax, or 25 percent. This shows that a great deal of wax is wasted in the slumgum if it is not boiled and squeezed as it should be.

The outlook for the coming season is promising at present, as the snow will protect the white clover from winter-killing.

ARCHER L. WHITE.

Dodge Co., Wis., Feb. 12.

Care of Plants in Spring.

In the springtime when plants are making strong and rapid growth, particular attention must be given to training them. If neglected in this respect they soon get beyond control, and the only way to bring them into subjection then is by sacrificing a good deal of the growth they have made. This there is no need of doing if the training is begun in the right way, and at the right time. If a branch is inclined to outgrow others, pinch off the end of it, and keep all such branches from growing by pinching until other branches have had a chance to catch up. If a plant is not bushy and compact, make it so by pinching off the end of all its branches. Keep up this treatment until as many branches have started as you think the plant ought to have. If you desire a plant to grow in tree form train it to one stalk until it reaches the height you desire, and then nip off its top and force it to branch. Save the branches at the top to form the head of the tree. If you want a shrubbery plant begin the pinching process when it is small, thus forcing it to branch close to the 'pot. The old saying, "as the twig is bent the tree inclines," applies pertinently to the training of plants when in their early stages of development.—EBEN E. REXFORD, in the Ladies' Home Journal.

CONVENTION NOTICE.

Utah—The Utah Bee-Keepers' Association will hold its regular spring meeting April 5th, at 10 o'clock a.m., in the City and County Building at Salt Lake City. All are cordially invited. We expect to get out a treatise or pamphlet, the object of which will be to give the best and quickest method to discover, cure, and prevent disease among the bees, and the best way to protect them from their enemies. It will also contain other matter for the benefit of the industry, including our State law. We will be pleased to receive communications from any of our bee-keepers upon any subject along the lines indicated. Address, Pres. E. S. Lovesy, Salt Lake City, Utah, or J. B. PAGG, Sec. East Mill Creek, Utah.

GINSENG $10, in plants produce $4,069.10 in 10 years. Book telling how to grow it, 4c Lakeside Ginseng Gardens, Amber, N.Y

The Emerson Binder.

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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The popularity of the Electric Handy Wagon, Electric steel wheels, and, for that matter, all Electric goods, is equally easy of explanation. It is based on their superiority, which is maintained by careful selection of material and careful construction. The hub is made of a superior cast-iron, fully 100 percent stronger than ordinary cast-iron. The spokes are cast in the hub by a special process, and have a head which effectually prevents their ever pulling out. They will remain tight in the hub as long as the wheel lasts. The outer ends of the spokes are securely fastened in the tire with a countersunk head and a substantial shoulder on the inner side of tire. The heads are countersunk clear thru, so that the spokes will remain solid in the tire until the tire wears out. Both tire and spokes are made of the best wrought steel, and guaranteed not to break in the coldest weather or on the rockiest road. The wheels, as a whole, are practically indestructible, and will last a long time.

The Electric Wheel Company, at their factory in Quincy, Ill., manufacture steel wheels (which are sold to farmers to fit any running-gears the farmer may have), handy wagons, tanks of all kinds, feed cookers, feed grinders, and other farmers' supplies. We feel confident that every one of our readers will be interested in their catalog. Do not fail to send for it, and mention the American Bee Journal when writing them.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Feb. 19.—Fancy white comb, 16c; No. 1 white comb, 14@15c; fancy amber, 12@13c; No. 1 amber, 10@11c; fancy dark, 10c; No. 1 dark, 8@9c. White extracted, 7½@8c; amber, 6½@7½c; dark, 6½c. Beeswax, 28c.

R. A. BURNETT & Co.

KANSAS CITY, Feb. 19.—Fancy white comb, 16@16½c; amber, 12@13c; dark, 10c. Extracted, light, 9c; amber, 7½@8½c. Demand fair; receipts light. Beeswax, 22@28c.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemous & Co.

CINCINNATI, Feb. 9.—The market for comb honey is becoming very bare, altho the prices have not changed. Fancy white comb is still selling for 16c; no demand for darker grades. Extracted is in fair demand; dark sells for 5½c; better grades from 6½@8c; only white clover brings from 8½@9c. Beeswax, 28c.

C. H. W. WEBER.

ALBANY, N. Y., Feb. 11.—Honey market is dull and prices nominal; light stock, but the cold weather is bad for it. Comb, in good order, not candied, white, 15@16c; mixt, 13@14c; dark and buckwheat, 11@12c. Extracted, white, 7@8c; mixt, 6@6½c; dark, 5½@6c.

H. R. WRIGHT.

BUFFALO, Feb. 8.—Some more active this week, and may clean up better than expected awhile ago. Fancy 1-pound comb, 15@16c; No. 1, 14@15c; No. 2, 12@13c; dark, buckwheat, etc., 8@10c. Beeswax, 25@28c. BATTERSON & Co.

BOSTON, Feb. 8.—Fancy No. 1 white in cartons, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. A scarcity, no call for dark honey this year. Extracted, white, 8@8½c; light amber, 7½@8c. Beeswax, 27c.

BLAKE, SCOTT & LEE.

NEW YORK, Feb. 19.—Comb honey is being well cleaned up on our market. The demand has lessened to quite an extent, on account, we presume, of the high prices which have been ruling. Fancy white still brings 15@16c in a small way: No. 1 white, 13@14c; amber, 11@12c; buckwheat, 10c. Extracted rather dull and not much doing. California white honey, 7½@8c a pound; light amber, 7c; Southern, from 60 to 70c per gallon; buckwheat, 5@5½c. Beeswax steady at 28c. HILDRETH & SEGELKEN.

DETROIT, Jan. 19—Fancy white comb, 15@16c; No. 1, 13@14c; dark and amber, 12@13c Extracted, white, 7@7½c; amber and dark, 6@6½c. Beeswax, 26@27c. M. H. HUNT & SON.

SAN FRANCISCO, Feb. 6.—White comb 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber, 6¼@7¼c; amber, 5½@6½c. Beeswax, 26@28c.

Considering the light output of honey last spring from California apiaries, present offerings are of tolerably liberal volume and are mostly of amber grades. The market is slow at the quotations. It is reported on good authority that adulterated and imitation honey is being dealt out in considerable quantity, which accounts in a great measure for the very limited business doing in the pure article.

HONEY MARKET.—We may have a customer within a short distance of you who wants your honey or beeswax. We are in close touch with all the markets; therefore write us regarding your crop, stating quantity, quality, and lowest cash price. References—Either Bank here for any business man in this city.

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Alfalfa Clover	80c	1.40	3.25	6.00
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Offer No. 25.

For $1.00 we will send GLEANINGS one year and a Clark smoker, postage 20 cents extra. Or, for $1.25 we will send the Corneil smoker, postage 25 cents extra.

Offer No. 26.

For $1.75 we will send GLEANINGS one year and our cyclopedia on bees, the A B C of Bee-Culture, of 475 pages.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., MARCH 14, 1901.

FORTY-FIRST YEAR
No. 11.

WEEKLY

MR. O. L. HERSHISER,
Superintendent of the Apiarian Exhibit at the Pan-American Exposition.

THE AMERICAN BEE JOURNAL.

PUBLISHT WEEKLY BY

GEORGE W. YORK & CO.

144 & 146 Erie St., Chicago, Ill.

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OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey commissionmen.

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ONE Untested Italian Queen FREE as a Premium for sending us TWO new subscribers to the American Bee Journal for one year (with $2); or, one Tested Queen free as a premium for sending us FOUR new subscribers (with $4.00.)

We have arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us the coming season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

Orders for these fine, "long-reach" queens will be filled in rotation—"first come, first served"—beginning about June 10th. It is expected that orders can be filled quite promptly, as a large number of nuclei will be run. All queens will be guaranteed to arrive in good condition, and all will be clipt, unless otherwise ordered.

CASH PRICES of these fine queens will be as follows: Untested, $1.00 each; Tested, $2.00 each. Send all orders to

GEORGE W. YORK & CO.
144 & 146 Erie St., CHICAGO, ILL.

28 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 28 cents a pound—CASH—for best yellow, upon its receipt, or 30 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., CHICAGO.

Best White Alfalfa or Basswood Extracted Honey

ALL IN 60-POUND TIN CANS.

ALFALFA HONEY.....

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.

BASSWOOD HONEY.....

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms in Wisconsin. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

A sample of either, by mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. The cans are boxt.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

Address,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., MARCH 14, 1901. No. 11.

Editorial Comments.

The Home Circle.—We begin this week a new department of the American Bee Journal, called THE HOME CIRCLE. As will be noticed, it is in charge of Prof. A. J. Cook—a man of excellent ability, wide experience, and a most helpful writer. We trust that thru this feature of the old Bee Journal every member of the family may be greatly benefited.

It would be a nice practice to gather all the family around the fireside, and have some member read aloud the whole of this new department each week. As each paragraph is read it could be discust or commented upon very helpfully by father or mother, or the older members of the family, and thus pass a most entertaining hour or evening.

We hope, also, that many will avail themselves of the invitation which Prof. Cook extends to all who can do so, to aid by sending to him such items of general interest and helpfulness as may be thought to be suitable. Of course, all such may not be deemed available, but doubtless a goodly proportion would be approved.

It is not our intention to allow "The Home Circle" to trespass upon the space usually devoted to bee-keeping, but we shall likely run fewer of our own advertisements, and devote the space thus occupied to matter that shall be of real value to every member of the family, whether interested in bees or not. We feel that in so doing we will be advancing the good of all, and thus be extending the influence of the "Old Reliable" in a way that will be commended by every one who desires to see it fulfill its highest mission.

We bespeak for both Prof. Cook and "The Home Circle" a cordial reception by every family into which the old American Bee Journal has already won its way.

Home-Apiary of Mr. E. J. Baxter.—On page 171 will be found a picture of the home-apiary of Mr. E. J. Baxter, of Hancock Co., Ill. Mr. Baxter is a native of Newark, N. J., but he has lived nearly all his life in Hancock Co., Ill. He is a son-in-law of Mr. Chas. Dadant, and for the past 23 or 24 years has kept bees on a large scale, having from two to four apiaries most of the time. He uses large hives, and extracts the greater part of his honey. In reply to enquiries as to his success in the production of honey, he says:

"The book containing my honey-crop statistics previous to 1896 is mislaid, but I can give you my exact returns for honey sold since that time, and some approximation of previous crops. The past five years have yielded me as follows: 1896, $523.40; 1897, $1,192.92; 1898, $407.70; 1899, $534.98; 1900, $42.30. The average number of colonies I have kept during this time has been 225. The past five years have been about the poorest, the last being the very worst of all.

"My best years were 1882, 1883, and 1889. In 1882 the bees averaged me over $10 per colony net, but I don't remember the exact amount.

"In 1883 an apiary that I establisht at Powellton, of 41 colonies, yielded a little better than 23 barrels of honey, one colony yielding 640 pounds. I believe that the total for that year was in the neighborhood of 23,000 pounds from 123 colonies, spring count.

"In 1889 I harvested something over 33,000 pounds for my own share, besides the one-fifth that I gave to the persons on whose grounds the out-apiaries were located. All but five barrels was clover honey, and netted me about $2,500.

"Our crop is clover, heartsease, and Spanish-needle.

"As to the strain of bees, I have blacks, Cyprians and Italians. The Italians have always done the best, in poor seasons usually having plenty of stores to winter on if no surplus, while the blacks are on the verge of starvation.

"I have used Langstroth, Simplicity, and Dadant-Quinby hives, and the latter having given me the best results I have now no other kind. Until the past year I have done nearly all the work in the several apiaries except during extracting time, when I have the usual crew of four besides myself, if the crop is good. I now have two out-apiaries besides the home-apiary shown in the picture."

Mr. Baxter is also a large fruit-grower. He is one of the firm of Baxter Bros., who own several large vineyards and extensive strawberry-beds. Their shipments of strawberries, raspberries, grapes, etc., amount each year to over a hundred car-loads; but E. J. Baxter says that his bees have brought him more profit, for the time involved in their care and the capital engaged, than any other enterprise in which he has ever been.

Making an Observatory Hive.—One of our subscribers in the State of Washington asks us to give plans or directions for building an observatory hive. Also the best location to place it for observation; and he wishes to know whether such can be purchast from bee-supply manufacturers.

Of course, anything in the bee-line can be gotten from the bee-supply manufacturers, if they are told just what is wanted.

Almost any one who is handy with ordinary carpenter's tools can make an observatory hive, something after the style of an ordinary hive, only with glass sides. Perhaps the most successful would be made for only two brood-frames, tho they are often made for one frame. Then the frame or frames can be lifted from the hive with the bees, queen, etc., and put into the observatory hive.

If we were going to keep bees in an observatory hive we think we would have it at the window of one of the living-rooms of our house, having it so placed that the bees could work in and out just the same as if they were outdoors, but have it so arranged that they could not get outside of their hive into the living-room.

Apiculture at the Pan-American.—As we have announced before, Mr. O. L. Hershiser is the live superintendent of the apiarian exhibits at the Pan-American Exposition, which opens in Buffalo, May 1, 1901, to continue six months thereafter. Here is what he has to say in Gleanings in Bee-Culture regarding the proposed exhibit in the interest and representative of bee-keeping:

Judging from present indications the apiarian exhibit will not be least among the many novel and instructive attractions. It promises to eclipse everything in this line ever attempted, and this, notwithstanding the general shortage in honey-production in many localities within the United States and Canada during the past two years.

This exhibit will be a veritable wonderland, not only for apiarists, but for that larger class of users and consumers of honey. It is designed to make this exhibit educational as well as entertaining, to the end that the fallacies affecting the pursuit of apiculture may be, as far as possible, rectified.

A model apiary will be in operation to show, in a practical way, just how both comb and extracted honey are produced. Exhibits, showing the relation of bees to horticulture, will be a prominent feature, and the mistake of spraying fruit-trees when in bloom will be demonstrated, as well as the absolute necessity of the presence of bees during the season of bloom in order to make horticulture, in any sense, a paying pursuit.

Vast quantities of both comb and extracted honey, prepared in the most attractive and appropriate forms for market, will be shown. It is safe to say that this most interesting feature of the exhibit will include the nectareous products of all valuable honey-plants to be found within the Americas and the island possessions of the United States.

There will be a complete and exhaustive display of manufactures therefrom.

A distinctive exhibit of honey-plants, as a part of the general out-door-growing horticultural and floral exhibits, is contemplated.

There will be several large and attractive exhibits of apiarian supplies, comprising specimens of all approved hives and every tool, device, and preparation needed in the pursuit of apiculture.

Several State and Provincial exhibits are already assured, and others are under advisement. It may also be stated that individuals, no matter where situated within the Americas, have an opportunity to

exhibit their apiarian manufactures and products. One person in this class proposes to install an exhibit comprising a car-load of 30,000 pounds of comb honey, and it is expected that there will be others of great magnitude, especially from localities noted for large productions of honey of a standard and uniform grade, as is the case with the alfalfa of Colorado, the sage of California, and the basswood of Wisconsin. Many of these, as well as some State exhibits, will be of the present season's honey harvest, and will not be installed before the middle of July to the middle of August; but application for space should be made early, in order that it may be provided.

Apiculture is accorded a prominent place in the Exposition, and a special building, in an excellent location, will be provided for the apicultural exhibits, the extent and size of which will be commensurate with the needs and desires of the bee-keepers who will exhibit.

It begins to appear that Mr. Hershiser is going to try to outdo the combined apiarian exhibits at the World's Fair in 1893, and the Omaha Exposition in 1898. We hope he will succeed. He is a hard worker, and deserves every encouragement in his huge undertaking. Surely, his objects, as stated above, are highly creditable, and, if carried out, ought to help to elevate bee-keeping and the products of the apiary to a higher plane than they have occupied before in the estimation of the public.

The American Bee Journal is ready to do all in its power to aid in making the apiarian feature of the Pan-American the most entertaining and educative of any to be shown.

"Watch the Bees"—Robbers.—A subscriber at Ackley Station, Pa., wrote us as follows Feb. 18th:

I enclose a clipping from the Farm and Home. It is a good thing we don't depend on farm papers for our bee-information.

The clipping referred to reads as follows:

WATCH THE BEES.—Be sure they have food enough. This can be easily ascertained by lifting the stands. They should weigh at least 75 pounds. If they are not supplied dissolve white sugar in water, enough to make a thick syrup, place in shallow pans and put immediately in front of stand on warm, sunny days. Watch for robbers if this is done. Your own swarms will not rob one another.—M. HALE, Coos Co., N. H.

When it comes true that "Your own swarms will not rob one another," it will no doubt also be true that two roosters will not fight if they belong to the same owner, and there will be no possible chance that one dog will snatch a bone from another unless they belong to different owners. There is, however, a serious side to this matter. In some cases a man will be punisht who pretends to practice medicine without proper qualification. He must know enough about the laws of health to be able to instruct his patients as to their health, or he is guilty of crime. Altho less in degree, is it not of the same kind when a journal ostensibly gives instruction upon agriculture, and knows nothing about the matters it treats of? If a physician is subject to punishment when guilty of mal-practice, should not an agricultural paper be punisht when guilty of mal-practice in its instruction? Farm journals should give reliable instruction as to bees, or let bees alone.

It says in the clipping that the "stands" should be lifted, and should weigh 75 pounds! If a "stand" weighs 75 pounds, how much should the hive, with bees and combs, weigh?

The Weekly Budget.

MR. JOHN B. YORK, the Father of the editor of the American Bee Journal, died of pneumonia at Randolph, Portage Co., Ohio, Sunday, March 3d, and was buried there March 6th. We returned this forenoon (March 8th) from our old home, where we laid to rest one of the best men that ever lived. He was a sincere, earnest Christian worker, and a member of the Methodist Episcopal church for 55 years, most of the time in some official capacity.

Father was born Aug. 24, 1829, in Starke Co., Ohio, only a few miles from where he died. He left mother and seven children to mourn his departure—four sons and three daughters, the youngest being a son 28 years of age, and the only one unmarried. Father lived to see his children grown up, and all in comfortable circumstances. He believed that to give them a fair education, and ability to look out for themselves, was far better than to leave them financial wealth. He was wise in thus doing. We believe father was fully ready not only to die, but also to live again in the Eternal Home, where all his family hope to meet him by and by, to part no more.

MR. A. L. BOYDEN, of the A. I. Root Co., has recently been in Cuba, and gives a report of his trip in Gleanings in Bee-Culture. It seems he visited some box-hive apiaries owned and managed by natives. At one of these he desired to take some photographs, but the Cuban bee-keeper didn't quite understand the kodak act. Mr. Boyden continues:

When I went to the lower end of the yard to snap my kodak he came rushing up, gesticulating wildly and talking vociferously. The bees were getting roused up at this point; and as I did not understand his Spanish, I concluded that he was afraid I would get stung. Being a bee-keeper myself, I determined to take my chances, and so held my ground until I had made two exposures (both failures, however), and then went back to the upper end of the yard, where the rest of the company were. When I got there I found I had offended this man very much indeed, for he thought I had come with some sort of music-box to entice his bees away. It is reported that he lost a large number a year or two ago in the same way, and he is very suspicious of anything he does not understand now. We tried to explain the matter to him, but did not succeed in pacifying him.

* * * * *

EDITOR E. R. ROOT has the following paragraph in Gleanings in Bee-Culture, with this heading, "York's Patent Double-Acting Bees:"

While we were on the cars *en route* to the Wisconsin convention, Mr. York poked fun at Mr. Hutchinson and myself on this matter of measuring bees' tongues. Mr. Rankin, you are aware, measures the whole tongue, while we measure from the mandibles to the end of the tongue. When Mr. Hutchinson and I were discussing which was the *right* way, Mr. York facetiously remarkt that he had a plan that was better than either; and that was, to measure from the end of the bee's tongue to the end of the sting. There could be no confusion if we measured thus. And he proposed, further, that Hutchinson and I go into the business of breeding bees that could suck up nectar from "both ends" at one time, something like a patent donble-acting double-plunger pump.

When those two editors have queens for sale of the double-acting kind of bees, we will give them a free advertisement. Only we hope they won't develop long stiugs at both ends, also!

* * * * *

MR. H. T. GIFFORD, of Brevard Co., Fla., we learn from Mrs. F. C. Prange, "was shot Feb. 16th by C. D. Reed, a renter. There had been some dissatisfaction about the crops, it seems, but no heated words for over three weeks. Reed used a shot-gun loaded with No. 4 shot, fired without warning, at a distance of 50 feet. Mr. Gifford was unarmed, and was pumping water for his horse. He saw Reed when he aimed, and threw his head and body behind the pump and platform. This saved his life, but he was badly wounded." Mr. Gifford is one of our subscribers, being 62 years old, and most highly respected by the residents of Indian River district in Florida, as well as in his native State, Vermont. We regret very much to learn of this very unfortunate occurrence, and trust that Mr. Gifford will fully recover.

* * * * *

NOT A BEE-HIVE.—The following is told at the expense of an American gentleman who was recently stopping with his wife at Hotel Cecil. On their first evening there he happened to retire somewhat later than his spouse. Arriving at the door of what he imagined to be his room, and finding it lockt, he tapt and called, "Honey!" No answer came, and he called again more loudly, "Honey!" Still he got no reply, and becoming somewhat uneasy he shouted the endearing term with his full lung power. This time a reply came, and in a male voice: "Go away, you blithering idiot! This is a bath-room, not a blooming bee-hive!"—London Express.

* * * * *

YELLOWZONES is the name of a valuable tablet remedy gotten up by Dr. W. B. House, of Detour, Mich. They are intended for the alleviation of all fevers, headaches, coughs, colds, grip, rheumatism, neuralgia, colic, dyspepsia, heart diseases, etc. We have tried this remedy for some of the troubles mentioned, and find it all right. We would advise our readers to send to Dr. House for circular and further information, if interested. Please mention seeing this notice in the Bee Journal, should you write to him.

* * * * *

MR. R. B. LEAHY, of the Leahy Mfg. Co., called on us Friday, March 1st, when on his way to visit Wisconsin bee-supply dealers. We didn't think he seemed as well as some years ago, tho he said he felt better than for some time past. He is taking things easier than formerly, saying he doubted if he would ever again work as hard as he did for some years. Nice thing to be able to "let up," we presume, and let others worry over business, etc.

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 133.)

THE SECRETARY'S REPORT.

During the past year no complaints have been made to me by any of our members of any trouble in obtaining payment for consignments of honey, but the case to which reference was made at the Philadelphia convention last year has not yet been adjusted.

In 1899, Mr. W. C. Gathright, one of our members in New Mexico, made a small shipment of comb honey to Mr. H. P. Robie, of Sioux Falls, S. Dak., and failed to get his pay. I wrote Mr. Robie twice regarding the matter before I got a reply. He promist to pay, but wanted a little time. After waiting a long time I wrote to him twice, but as yet have no reply, and, thinking it advisable to collect the amount if possible, I obtained his commercial rating, which in part is, "He is running a small newspaper called the Successful Farmer. Is of small financial means, and not known to have anything in excess of exemptions.....and can not be recommended for general credit dealings."

I informed Mr. Robie of the objects of our Association, and told him that unless settlement was made bee-keepers would be informed as to his method of doing business, and cautioned regarding their dealings with him.

This is the only case in which, during the past five years, I have failed to make a settlement in the name of the Association. A. B. MASON, *Sec.*

Pres. Root—Are there any other matters to come up before we adjourn?

Mr. Abbott—The Legislative Committee.

Pres. Root—I will name on that committee Messrs. R. L. Taylor, O. L. Hershiser and Herman F. Moore.

Mr. Abbott—Let me say briefly that the purpose of that committee is to look up the laws in the various States relating to bee-keeping, and to draft such laws as are thought proper in the interests of bee-keepers. Those laws will then be submitted to the General Manager, and when you want a law past in your legislature you send to the General Manager to get a copy of that law, then each State will have a uniform law, and you will have one drafted ready to push thru. I have a man now in Missouri who says he will put one thru our legislature this winter.

Pres. Root—Is there anything further that should come before this convention before we finally adjourn?

Dr. Mason—Nothing is yet known as to the time or place of our next meeting; we have been following the Grand Army Encampment; they have not decided where they will meet; as soon as we have decided you will learn of it in the bee-papers.

Mr. Root—If there is nothing more, I think we may consider ourselves adjourned, *sine die*.

Owing to some misunderstanding no report has been sent to me of the Wednesday evening session by the stenographer, and altho I have twice written about it, and it was promist, it has not been received, and as Mr. J. M. Rankin's paper on "Breeding for Longer-Tongued Bees" was read at that session, I have been waiting the arrival of the stenographer's report before inserting his paper in the report, but as it seems probable no report will be made, Mr. Rankin's paper will be inserted here.

BREEDING FOR LONGER-TONGUED BEES.

The subject which was assigned to me to discuss is one which has but recently been considered by the public as an important one. There are a few men who have been working along this particular line for years, but for some reason or other they have neglected to inform the public as to their results. It may be that they were afraid of being laught at for working on such a crazy hobby, or it may be any one of a dozen other reasons; but the facts of the case are, that no attention has been given it by the bee-keepers until the last three months.

When beginning work of this kind it is always well to stop and consider the probable advantages that would be gained if we were successful in accomplishing it. And also count the cost of bringing about the desired change. Then, by mathematical calculation, as it were, we can determine whether or not it is worthy of our consideration. The one great advantage in having bees with a tongue 8 or 9 mm. long, would be that they would be able to gather nectar from the flowers whose corolla-tubes are now too deep for them to work on. There would be myriads of plants whose honey deposits would be of easy access to our bees, which at present are entirely useless except to the bumble-bee. The principal one of these would be red clover. It is a known fact that as the country becomes cleared away, and the wild vegetation with the forests give way to the farmer's corn, potatoes, and hay, that the bee-keeper realizes that it is time to move to better pastures. His crop has become too uncertain to be profitable.

If the honey-bee could reach the nectar in the clover-heads, the bee-keeper would not find it necessary to move. When there is only an ordinary amount of honey in the corolla-tubes, it is of no value to the honey-bee, because it is out of her reach. She is compelled to wait until a moist or favorable time, when the nectar rises to within 3 or 4 mm. of the top of the tubes. What a difference it would make in the honey-crop, in these old sections of the country, where clover comprises half of the hay crop, if a bee could work freely on it!

When beginning this work I sought the advice of several scientific men. I received no help, and no encouragement. One of the most prominent entomologists in the country said that if I had nothing else to do for the next hundred years, it would be a pleasant way to spend my time in trying to accomplish something which was an impossibility. Had I been wise I should probably have taken his advice, but I did not. I went to work to contrive some way of measuring the tongues of the bees. After much experimenting I settled on a compound microscope with an mc. scale, and a camera lucida attachment. The bee was killed by chloroform, the tongue removed, placed on a slide, and held in position by a cover-glass. The image of the scale, as well as that of the tongue, was then thrown on the desk beside the instrument. This, however, proved to be a very unsatisfactory method, as it is a difficult matter, and requires the best of the day to make the adjustments of the microscope.

The method finally adopted was to place the tongue on a slide which contained the mc. scale, then to hold the tongue in place by a cover-glass, and place the whole on the stage of a simple or single lens microscope. By this method it is impossible to get the measurements down finer than .1 mm.; but this is close enough for all practical purposes. Many devices have been made to measure the tongue while the bee is still alive. So far as I have found none of these have been practical. The only fact that is of value that I have obtained from them is that during life the tongue can be stretcht to a certain extent, at the pleasure of the bee. Just how much it can be stretcht I am not now prepared to say. When I had found a way of measuring I was glad to know that the tongues of a certain colony were comparatively uniform, that is, that each strain had a particular length of its own.

After securing the best stock it was possible to find, queens were procured from this stock, and the selections began. The idea that presented itself to me was to cross and recross two good strains, thinking that we would in time produce something much superior to the original strain. It is by this method that all the improvements have been made in live stock.

It was right here that the difficulty presented itself, namely: How should I control the mating of the queens? Every method imaginable was tried, with little success. I have clipt the tips of the queens' wings, with the intention of impairing their flight; have taken off all the way from a hair-breadth to half the wing, but out of 65 queens thus treated only one was mated.

I then tried the plan of cellaring the nucleus containing the virgin queen, and also a full colony of bees containing drones. Then I releast them towards evening, after the drones in the yard had ceast to fly. The results were little better than those of the first method.

The only plan which has given me satisfaction is to keep a colony with drones queenless until toward the close of the season, and after the other drones in the yard are killed off. The virgin queens would generally be success-

fully mated. This plan, however, prevents more than one cross in a season. It has been proven that in the case of live stock, where breeding from nature toward a certain type, that the selections must be from both the male and the female, and of the two the male is the more important. It is necessary, therefore, to control both sides if we wish to develop a longer tongue, because it is not a natural tendency.

After three years of failure and success from these and other methods, from stock which measured 5, 8, and 6 mm., I have made two direct crosses, and the result is stock which measured 6.4 mm.

There is as yet a question as to what will be the outcome of this idea. The problem which confronts us at present is that of mating the queen. When we succeed in this we may experience the difficulty of having our stock suffer from in-and-in breeding, but this can doubtless be overcome.

If some one will take the contract of mating the queens as I want them mated, I would agree to develop the strain of bees with a tongue as long as desirable.

There are three methods, it seems to me, of accomplishing the desired results. One would be to sow a large barren tract on some island in the sea with our June clover. The corolla-tubes of this would be short because the soil would be too poor to grow the clover thrifty. An apiary located in this clover would reap a fine harvest from it because of its short corolla. Then we would gradually lengthen the corolla-tubes by adding fertilizers to the soil, and in a few hundred years we would have bees that would successfully obtain a harvest from June clover. We all know that it is the tendency of animal life to adapt itself to its surroundings. So the bees would have gradually stretcht their tongues to reach the nectar in the clover. This method can hardly be considered practical.

The next best thing will be to increase the length of the tongue by direct crossing. This method will, at the best, require many years of careful work. Why not add to this another method which will work in with this one perfectly, namely, to breed a race of clover with a shorter corolla-tube? Plants are more variable than animals, and therefore more easily changed from their original types. There are examples of this all around us. From a small yellow variety of corn, with an ear less than 6 inches long, and a stalk not 3 feet high, we have the large varieties of Dent which stand 10 feet, or even more, in height, and bear two or three ears. Cabbage and lettuce have been selected with a view to the value of their leaves. Phlox drumundi has within the last 50 years been changed from a small pinkish flower to the beautiful double white flowers of the present time. All these have been selected with a view to a certain type. Clovers have been developt with a view to a forage crop, and nowhere is there any record of work being done on the flowers themselves. Dr. Beal—one of our best authorities on botany, and especially grasses—said while talking with me on this subject: "A field of clover represents as many and as varied types of the same species as would a field of corn planted from a mixture of all the known varieties." It seems to me, then, that there is a chance to do some good work on the clover. There would be little danger of its going back to its original type, for only the short corolla-tubes would be fertilized by the honey-bees, and the first crop of this clover would yield the seed.

Let me impress upon you that in all probability there are few present here to-night who will live to see bees work freely on June clover. Do not misunderstand me. I honestly believe that it is possible to breed a strain of honey-bees with tongues long enough to work clear to the bottom of a June clover-blossom, but the process will be a slow one, and probably not practical for the ordinary bee-keeper to undertake. What I do think will be practical, and should be done by every bee-keeper, is to keep the longest-tongued stock that it is possible for him to find.

I dare say that next season there will be cataloged by the leading supply-dealers a piece of celluloid with a mc. scale, lense, and a half-dozen cover-glasses thrown in. They will offer the whole outfit for about $2.00, and every up-to-date bee-keeper will know the length of the tongues of every strain of bees in his yard, and will rear his queens accordingly.

I think that in the past the ordinary bee-keeper has been too likely to rear his queens "just as it happened," or possibly has paid special attention to the three or five yellow bands. This is all wrong. When selecting a work-horse we do not pick out a sharp-backt, slab-sided horse just because he works willingly. We find a square-built, blocky horse that has the ability as well as the willingness to work. Why not apply the same horse-sense when selecting our breeding stock in the apiary?

If this method of selection is followed for a few years there will be no more short-tongued bees in your apiary. Then, too, you will not see one colony working on some vile weed, and storing strong, black honey while the colony beside it is storing beautiful white honey from second-crop clover, or from some other plant with a deep corolla.

J. M. RANKIN.

REPORT OF THE COMMITTEE ON A MODEL SCORE-CARD.

The committee appointed at the National convention in Chicago, to draft a model score-card to be used in judging bees, honey, etc., at fairs, was appointed so late in the meeting that they could not get time to decide on various points, and after much corresponding they have decided to offer the enclosed score-card—not as a perfect score-card, but as a help, and with the hope that it may be tried in various parts of the United States, and then be so modified by another committee at the next meeting as to fill all demands:

General Display	Comb Honey	Quality 25	Variety	5
			Perfection of capping	5
			Completeness of "	5
			Straightness of comb	5
			Sections, clean and neat	5
		Quantity 25		
		Attractiveness 50		
		Each variety of honey to be distinct of its kind.		
	Extracted Honey	Quality 25	Variety	5
			Body	5
			Flavor	5
			Style of package	5
			Kinds of packages.	5
		Quantity 25		
		Attractiveness 50		
Single Case Entry	Comb Honey	Not less than 12 pounds nor more than 25 pounds. Points of judging as above, graded as white, amber or dark.		
	Extracted Honey	Points of judging as above, graded as white, amber or dark.		
		Granulated. (Separate entry.)	Variety	5
			Fineness of grain.	5
			Color	5
			Flavor	5
			Package	5
Nucleus of Bees in Observatory Hive	Color and markings			30
	Size of bees			20
	Queen			20
	Brood			5
	Quietness of bees			10
	Style of comb			5
	Style of hive			10
	Each race of bees to have the markings and color peculiar to its race.			
Queen-Bee	Quality	50	As per nucleus of bees.	
	Variety	25		
	Style of cage	25		
Beeswax	Color	30	Not less than 10 pounds.	
	Purity	30		
	Grain	20		
	Display	20		
Implements and Supplies.	Number of kinds			50
	Appearance or attractiveness			50
Bakings Candies and confections Honey-Vinegar Honey-Wine Fruits (canned)	Greatest number, sweetened with honey, recipe for making with each exhibit—1st Prize.			

Respectfully submitted,

N. E. FRANCE,
W. Z. HUTCHINSON,
F. WILCOX,
R. C. AIKIN,
O L. HERSHISER,
Committee.

In several places in this report Mr. and Mrs. R. C. Aikin's little daughter has been credited with having entertained the convention with songs and music on the piano, but Mr. Aikin writes me that Mr. and Mrs. Acklin's little daughter was our entertainer. It was a very easy matter to make such a mistake when two such bright and winsome Misses of so nearly the same age were constant attendants on our sessions. A. B. MASON, *Sec.*

[THE END.]

Contributed Articles.

No. 5.—Extracted Honey Production.

Machinery Needed—Freeing of Impurities—About Heating—Why Some is More Watery Than Other.

BY R. C. AIKIN.

IN addition to the extractor there are knives, knife-pan, and oil-stove to heat same, capping box or can, strainer, and one or more tanks. The larger the tank the less trouble and the better the honey. Some use a tank of about a barrel capacity, a real barrel sometimes serving the purpose; such will do for a very few colonies. I will not specify a definite size of tank, but rather tell you what you ought to do, and then you can judge for yourself of the size best suited to your needs.

In extracting it is rarely that any foreign substances get in the honey but bits of wax and propolis. Wax weighs, I think, about 7 pounds to the gallon, being lighter than water, which is in round numbers 8, honey about 12, and propolis between water and honey. I will say, parenthetically, that if you are melting wax that has propolis in it, be careful not to let it get too hot, for the propolis settles to the bottom of the boiler and will burn there and stick fast to the boiler-bottom. I have just been melting a lot of top-bar scrapings composed of propolis and bur-combs, and altho I thought I was not letting it get too hot, yet it burned on the boiler-bottom.

Since the specific gravity of wax is but about ⅔ that of honey, and propolis slightly heavier, but still lighter than honey, both will float. The thinner the honey the quicker will the impurities float, but it is very hard to have it thin enough either to do a good job of straining thru cloth, or to float out these substances in less than several days. Well-ripened honey should be at least three or four days settling at a temperature of about 100 degrees, and even then there will appear more or less specks after drawn into the shipping package.

Suppose you want to extract one or two thousand pounds in a day, and have but a 500-pound capacity settling-tank to receive it—you can neither strain nor settle it properly in that time unless heated to considerably over 100 degrees—I should say not less than 125. The most practical way is a tank of a capacity to hold the honey so you can let it settle for at least a week, and even then it ought to be in a quite warm place. If you want to do good work, and put out a well-ripened and a clean and nice liquid, use both time and heat liberally.

For several years I used a tank of 1100 pounds capacity, but when extracting 1,000 or 2,000 a day—even 600 or 800 a day—several days in succession, I found my tank altogether too small. A tank 2 feet across and 4 feet high will hold about 1,000 pounds. I now have one 5 feet across and 6 feet high, which holds 5 tons, is made of galvanized steel, and never overflows with a day's extracting. The outlet is in the bottom; the pipe is elbowed out beyond the tank, and all is set on a circular stone foundation built from the cellar floor to about two feet above the ground floor. A brick casing is built about the tank with two to three inches space between tank and brick, until the top is reacht, when the brick is drawn in against the tank and mortared air-tight to retain the heat.

In the circular chamber beneath the tank is a range stove, and on this is where I melt honey, wax, and such work, and a little fire there helps to keep the tank warm. The chamber being of stone, and nearly the whole structure of stone, brick or metal, I can leave a roaring fire and no fear of a burn-out.

Speaking of heating honey, it does not absorb heat as freely as water. Set a chamber or hive of combs of honey in a warm room, and it will be many hours in getting warmed thru, at as high a temperature surrounding as 100 to 120 degrees. I often bring in a lot of extracting chambers and store them, and before extracting I keep the room at well nigh 100 degrees for about two days, then extract. I have so treated several tons, warming for extracting after the honey season was over—as late as November and December.

The consistency of honey varies quite materially, much depending on conditions while being gathered. If the flow be very slow, capping is delayed and the cells remain open, and the honey is exposed to the evaporating process for so long that it becomes very thick; but with a rapid flow the cells fill rapidly, and the free honey and constantly full honey-sacs cause a free secretion of wax and prompt sealing, sometimes even before the honey is sufficiently ripened. When nectar comes freely it is dropt into any available open cell, among the brood, near the entrance, in fact anywhere where there is found an open cell, big or little. When the flow lets up, or stops, then this scattered honey is gathered from here and there and stored regularly. Even a rainy day serves as a chance to put things to rights in a much disordered house caused by the previous rush to get all that was to be had while it was available. This unevenness will be observed at times by thick and thin streaks in the same combs, and some parts of a comb will extract much more freely than another.

All honey intended for table use should be put thru a settling-tank, and *well* settled. If it were feasible to get the honey heated to about 130 or 140 degrees before straining, then it would be possible with large but fine and close strainers to properly strain out the impurities; but the easiest way is large settling-tanks. The large tank, and time given, make a much more even grade of honey than can otherwise be obtained except by freely using heat. I am an advocate of applying some heat to the honey, but too much would be worse than none at all.

Another thing essential in a well-equipt honey-room, is handy water and washing arrangements. Where it is possible there ought to be water on tap as in waterworks of cities and towns. The water may be kept in a tank so that it can be drawn at any time. A waste-way or sink should be provided for dirty water, and a barrel with a cloth over it for all honey-washings, such as of cans that have had honey in them, honey-strainers, etc. This sweetened water can be poured into the barrel thru the cloth tied over the top, thus straining it as it goes into the barrel. Such savings will make first-class vinegar, and help out in the revenues. Larimer Co., Colo.

Do Bees Injure Fruit by Taking the Nectar From the Flowers?

BY G. M. DOOLITTLE.

A CORRESPONDENT writes that a neighbor of his thinks he ought to give him several pounds of honey for the injury which was done his fruit from his bees taking the sweet out of the fruit-blossoms, this hindering the fruit from perfecting as fully as it would have done, had the bees not so taken the sweet, ending his letter in this way:

"Will you please tell us in the American Bee Journal whether there is anything in this claim? I do not wish to give out any honey as pay for damages, as it would be establishing a bad precedent, altho I generally give my neighbors several pounds of honey each, each year, for I like to see them enjoy it; and it also helps to smooth over any rough feelings which the bees may cause in any way."

I like the spirit of the last words from our correspondent very much, and know from experience that the giving of a few pounds of honey to all near-by neighbors will smooth over all bee-spots on drying clothes, an occasional sting gotten by a bare-footed child stepping on any bruised or partly decayed fruit which may happen to have a bee in or on it, etc., and I believe that nothing pays me better than the giving of some of the "first fruits" of my honey to those who may have a chance at some time or other to be annoyed by my bees. But while I so believe, I would *never* give out a pound of honey as payment for any damage done to flowers of any kind by bees working on them, for *no* damage is ever done. In fact, it is always the other way. The bees always help in perfecting any fruit which is visited by them while the fruit is in the blossom or flower

form. It is only from jealousy, coming from that innate weakness common to all, causing a restlessness to come over others by seeing the bee-keeper prosperous, that such demands are made of us bee-keepers, and to show any concession on our part at this point would be to "let down the bars" for a still greater call upon us.

No sooner did it go out by a gossip of our neighborhood, that "Doolittle was making money out of his bees," than a few about me began looking around, and when they saw bees at work on the bloom in their orchards, meadows and buckwheat fields, they began to reason that Doolittle was getting rich from that which *belonged to them*, and from this sprang the thought that the saccharine matter found in the flowers was placed there for the development of the fruit; and as the bees took away this sweet as fast as it was secreted by the flowers, an injury must result to the product coming from these flowers and their fields, which injury did much to enhance Doolittle's gains.

Since being in the queen-business more largely than in the honey-business, I have heard less of this than formerly; but from my own experience I doubt not that every prosperous bee-keeper has either heard something similar to this, or, if he has not heard it, his neighbors have talkt it when not heard by him. I have even been askt for ten pounds of nice basswood comb honey as pay for what honey the bees gathered from a ten-acre field of Canada thistles, which the owner of the land had allowed to grow up thru his shiftlessness, he arguing that a pound of honey from an acre was a very light toll, indeed. When thus approacht, I have always assumed the attitude of the injured or grieved one, and demanded a *cash* return for the service rendered the crop by the bees causing greater *fruitage* thru their properly pollenizing the flowers workt upon, and have always so presented my arguments that every party so approaching me has gone away convinced that I was right in claiming that better results always attended any crop which was visited by the bees in the blossom form.

I take a little different view of these matters than do most other people, going back to the creation of all things and telling how all fruit or grain of any kind was an entire failure till insects were created to visit the flowers which secreted *nectar*, while those that did not secrete nectar bore fruit as perfect then as to-day. Of course, thus far, all is a matter of conjecture, but it serves the purpose of getting the thoughts of the one talkt with from what he considers a grievance, over to a line of thinking where he is at least a little pliable toward the bee side of the matter. From this I go on to explain how that the first object of nectar in the flowers was *not* for the perfecting of fruit, or to be used as a food or luxury for man, nor even to sustain the life of the bees, but as a means to an end, and that this end was that *insects of all kinds* might be drawn to the flowers so secreting, that the fruit, or female blossoms of plants which could not possibly be fertilized in any other way, might be fertilized thru the agency of *insects* which would be attracted to these flowers by the tempting and attractive morsels of sweet they spread out before them as a sumptuous feast, while honey as food for the bee and for the use of man came in as a secondary matter or item.

I then proceed to dwell on insects other than the bee, and show that these out-number the bees by scores, as all close observers well know, showing that to claim damage of any one from these would be something not to be harbored for one moment.

Having gotten the thought now fully on my side of the matter, I next proceed to quote from Gregory's treatise on squashes, where he says, "The *primary* reason why a squash grows, is to protect and afford nutriment to the *seed*"—the use of it as food being a secondary matter, and thru this line of reasoning prove that the primary object of the nectar placed in the blossoms of the squash was to draw insects to the blossoms, as the female blossom is of such shape, and being hid down in the leaves, that pollination could not be effected in any other way, and thus neither seed, nutriment, nor anything of the kind could be obtained, were it not for the insects which were attracted by that little nectar which was placed in these for the *sole* and *only* purpose that the seed to the *squash* might perfect.

I then go on to give Gregory's experiments of covering the female blossoms so no insects could visit them, and without a *single* exception, every such covered squash-blossom was abortive. I also tell how bees were once banisht from the town of Wenham, Mass., the result being that no perfect fruit was found in the interior of that township until the bees were requested back again; winding up by asking, "Why, then, is nectar placed in the flowers?" This nearly always brings an answer more or less favorable to the bee, which I make more impressive with, "To attract insects that the blossoms may be properly fertilized, *primarily*; and, secondly, for food for these insects, which food for insects, in the case of the bee, is utilized by man." And by this time the man or woman who came with a grievance, as he or she thought, is won over to the *insect* side, if not to the bee side, and I hear no more of paying for damages done to flowers by the bees.

Let our correspondent try this line of reasoning, rather than giving any honey or anything else to pay for damages claimed to be done thru his bees to the flowers in his neighbors' fields or orchards.

Onondaga Co., N. Y.

What About the Hare?—Will It Become a Pest?

BY FRIEDEMANN GREINER.

THE reports on the Belgian hare in this and other papers are somewhat conflicting, and people's opinions go widely apart. Mr. Martin says in Gleanings in Bee-Culture that after an absence of nine months from Los Angeles he finds the hare-business—which had been in a flourishing condition before he left—dead and gone; and, further, that the hare-meat can not compete with other meats.

Mr. Morrison in the same number of Gleanings says that one firm in Melbourne sent 5,000,000 canned and frozen rabbits to England; further, that he can buy in Bermuda a whole imported canned rabbit for 24 cents.

Mr. Martin's and Mr. Morrison's statements do not exactly harmonize, and yet are not so very far apart. Mr. Morrison does not speak of the hare-business from the fancier's standpoint. Mr. Martin evidently does. The conservative observer has been quite sure from the very beginning that the life of a $500-hare boom would be short. There may be a few, who in the future will be willing to pay $5.00 or $10 for a pedigree hare, but the majority of hare-growers must grow the animal for meat-stock and so can not afford to pay exorbitant prices for breeding-stock, particularly as the difference between the 50-cent hare and the $500 animal does not lie in the latter's greater size, vigor, higher quality of the meat, or any other important feature, but merely in the slight difference of his color, which disappears when the pelt is pulled off. The 50-cent hare has more white hairs on the legs and underside than the other, but is just exactly as good for the table. That is what we raise the hare for, and therefore can not see good business sense in it, to pay these fabulous prices.

Why the meat of the hare could not be made to compete with other meats I fail to see. It certainly does in our own home, and others that I know of. We like variety. A few years ago we got tired even of capon meat. My better half said she did not like those great 10-pound carcasses; they lasted too long. A hare seldom dresses much over 4 pounds and we can "make away" with one at a meal, perhaps leaving just a few of the choicest slices to put into the dinner-pails of our children to take to school. We aim to have rabbit on the table once a week at least; we enjoy it and I believe when the public becomes acquainted with this diet, there will be a call for it.

Mr. Morrison also says that in Australia the rabbit can not be called a pest. I judge from my experience that it will not become a pest here. I can understand that in a congenial climate, with no enemies, the liberated hare might increase rapidly and in the end overrun the country. But there is no danger of that in America where his foes are legion, and the numbers of hunters outnumber the game. One might turn out a large flock here, but he will not see them increase to any appreciable extent. My experience is they soon decrease in numbers. It would indeed be a lucky accident to see a young outdoor brood of hares grow up to maturity unharmed. A grown hare may for a time hold his own, but he is always in danger, and I would not want to keep a valuable animal except within a tight enclosure.

Not long since the Illinois State Horticultural Society past a resolution concerning the hare as follows:

"*Resolved*, That it is the sense of the Illinois State Horticultural Society that hares should in no case be permitted outside of strong cages or enclosures, and that we earnestly request the general assembly of the State of Illinois at its approaching session to enact a law providing, etc., and affixing suitable penalties upon their owner in the event of their being allowed to escape, etc."

Senator Dunlap, president of the society, stated that it

would probably be better if the society would petition the legislature to enact a law to prohibit the *growing* of the hare within the State. A comparison was even drawn between the hare and the English sparrow.

These good people are unduly scared. I will admit it might be unwise to turn a large lot of hares loose into a young orchard in the winter-time. I very frequently turn out 10 or 12 of the animals at any time with 600 young fruit-trees growing near by, which I would not have injured for all my hares. Yet I have not the slightest fear that any of the trees will be damaged. The fact is, I have never had a tree injured, neither by the wild rabbit, which within three years was very plentiful here, nor by my hares, except when the fruit-trees had been planted in the hare enclosure. The woodchuck is the destroying foe among our fruit-trees—not the hare; and the States could well afford to pay a bounty for every specimen killed; the hunters would take care of the hares. In some localities nurserymen sustain heavy losses by the work of wild rabbits, it is true; but a few hunters with dogs and ferrets will clean out (glad to do it) an infested district in a short time. I do wish we had *more* wild rabbits.

The hare—because less cunning—could be subdued and cleaned out much more easily and quickly than the wild rabbit. However, nobody need be afraid that any hare-grower would liberate and give up ownership of his stock as long as they are as valuable for food as they are. There is absolutely no need for legislation against the hare altho I believe California has a law against liberating hares.

Sometimes when I wish to dispose of surplus stock, to make room, I kill a number of them at a time, stew the meat and can it in our regular one or two quart glass-cans. Thus prepared it is ready any time for lunches or other culinary uses.

I am not sure that the hare industry is *the coming industry*, as Mr. E. T. Abbott puts it, or that it ever will assume gigantic proportions as to become a *leading* industry, but I *am* sure that it will always be and remain a pleasant auxiliary for the production of choice meat, for one's own table at least, and at a very low figure. In my individual case, if I had several hundred grown animals now on hand I could very easily dispose of them at 15 cents per pound.

Ontario Co., N. Y.

A BROTHER'S TESTIMONY.

I will add that my brother Friedemann, is hardly enthusiastic enough about the value of the Belgian for meat stock. In quality, the meat is unsurpast—I believe even unequalled—by the meat of any other domestic animal, the capon not excepted. A well-roasted young Belgian hare is a treat, indeed.

In a general way, Friedemann has given the facts in the case. T. GREINER.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Death-Rate of Bees in Cellar-Wintering—A Foul-Broody Deal.

1. I put 72 colonies of bees into the cellar Nov. 22d to the 26th, just after a good flight, but found *many* dead bees on the bottom-boards, which were all cleaned out. About one-third had a ⅞-inch entrance, and the balance ⅜, and nearly all of the latter were raised and ½-inch blocks put under the front end. As there seemed to be more dead bees than usual on the cellar floor, I made a note of all, swept up since Jan. 16th, which is as follows: Jan. 16th, nearly two quarts, and one hive spotted: Jan. 24th, nearly two quarts, and four hives spotted; Feb. 1st, 1½ quarts, and eight hives spotted; Feb. 7th, 1⅓ quarts, and 12 hives spotted; Feb. 14th, two full quarts, and 15 hives spotted.

Is the above an average death-rate, or is it above the average? Would it be best to put the bees out for a flight on a *good* day, and then return them to the cellar? The cellar is rather damp; it was tiled Nov. 1st. The temperature has been from 40 to 48 degrees.

2. A bought bees of B—7 colonies at $3.00 each, in April, to be paid for with honey produced by the bees, (but not to be confined entirely to 7 colonies). Six of the seven were affected with foul brood, unknown to the buyer (and supposedly unknown to the seller). The bees being black, part of them were used for rearing queens to requeen the rest, and divided into nuclei. (Don't say A was foolish—he did not know there was any foul brood in Iowa.) Result: 11 colonies have been treated for foul brood, 2 of them absconded, one full colony and one 3-frame nucleus were sulphured, and three of the treated ones died during winter, probably from the boiled honey; $7.00 has been paid. Now, without any thought of the legal points in the case, what would be right and just to both parties? Ought A to pay the full amount to B, or has he paid enough? Only one of the seven colonies stored any surplus honey.

IOWA.

ANSWERS.—1. There is nothing very unusual about the mortality, but so many hives being spotted so early in the winter gives occasion for some uneasiness. When a cellar is damp it needs a higher temperature than when dry, and it is possible that a higher temperature would have prevented all spotting of the hives. The temperature was rather low in any case if it ranged evenly from 40 to 48 degrees, for that would be an average of 44; and if most of the time it kept near the lower limit the case was still worse. Unless they are very bad, it is hardly advisable to put them out of the cellar until they can stay out. Experience has shown that when put out and returned to the cellar they are not likely to do very well. But it may be advisable to put them out earlier than you would do if they were perfectly healthy.

2. The probability is that the moral and the legal view of the case would closely coincide. If a merchant were to sell you by mistake sand instead of sugar, he ought not to be paid more than the value of the sand, and the fact that he was ignorant of the character of the material sold would not in the least degree enhance the value of the sand. The cases are not exactly parallel, for while one might be willing to accept sand at a price sufficiently low, he would hardly want to accept foul brood without being paid for taking it.

A Beginner's Questions.

1. I had one colony of bees last spring, and they workt well at first, but after the first swarm they stopt work. What made them do that?

2. Four years ago I had a colony that swarmed three times. They workt all the time till all the flowers were gone. I put all the colonies into the cellar and in the spring they all died. Do you think the cellar was too damp for them?

3. How long does a worker-bee live—40 or 60 days?

4. How many drones does the queen have with her during the working season? NEW YORK.

ANSWERS.—1. The probability is that there was no work to be done, that is, no honey in the flowers. Sometimes the flow ceases when there is no apparent reason for it. Then it may start again without any difference that one can see. It may be, however, that you mean that this one colony stopt work while others continued to work. The fact that it swarmed was enough to account for at least a very great decrease in the amount of work, because work can only be done where there are workers, and when that colony swarmed most of its workers went with the swarm. You will find it invariably the case that when a colony swarms there is a great falling off in the work of the mother colony.

2. It is impossible to say without knowing more about the case. If the cellar was very damp, that would of course be something against their chance of wintering well. But no matter how good the cellar, you ought not to expect all to winter well when a colony swarms three times. Under ordinary circumstances two or three of the colonies would be weak for good wintering. The mother colony would be greatly weakened by so much swarming, and the second and third swarms would hardly be strong. But that does not account for the death of the first swarm, and one can only guess that a cellar too damp or too cold, or too little ventilation of hive or cellar, or both, or some other thing was the cause of the loss.

3. The life of a worker-bee depends upon the amount of work done, and so to a great extent on the time of year.

A worker that enters its career just after all work in the field is over has little chance to wear itself out with work, so it may live six months or longer. If it starts in when there is work for all hands, say the last of May, it will live about six weeks.

4. There is no rule as to the number of drones to be found in a colony during the working season. Other things being equal, the number is likely to be more with an old than with a young queen. The harvest has something to do with it. If the harvest is fitful or poor, the chances are not so good for a lot of drones to be allowed in the hive. The combs make a difference. Less drones will be found in a hive with little or no drone-comb.

Building Up Weak Colonies—Stimulating Brood-Rearing by Feeding.

1. I read that sometimes even very weak colonies—say covering only one comb—build up in very good seasons so fast that they make not only strong colonies, but even store some surplus honey. Now, do you think it would be advisable to-day to divide a colony covering eight frames into eight nuclei, giving each a young and fertilized Italian queen? As we expect a very good season, if the strong colony would give 300 pounds of surplus extracted honey, would not the eight colonies (or nuclei) build up so well that I could get from 60 to 80 pounds from each?

2. Is it of any use to feed for stimulating brood-rearing in the spring, if the colonies still have plenty of honey? What can I do to stimulate them? CALIFORNIA.

ANSWERS.—1. It is true that a nucleus with bees enough to cover only one comb may build up into a strong colony and give some surplus. It is also true that a strong colony may go thru a good season and yield no surplus whatever, being weaker in the fall than in the spring. Both are very exceptional cases, and it will not do for a beginner, nor indeed for any one to take either extreme as a basis. There is of course a possibility that an experienced bee-keeper might divide a colony covering eight frames into eight nuclei and obtain from each a surplus of 60 to 80 pounds in your wonderful California. The probability is that he would obtain no surplus whatever, if indeed no feeding were necessary. It is hardly advisable to start a nucleus with less than two frames of brood with adhering bees, and even then you should not expect wonders.

2. It is a little hard to say. If there is an abundance of stores in the hive, stimulative feeding may do little or no good, and if unwisely administered it may do harm by starting the bees flying when they would be better off in the hive. A beginner may do as well to see that a colony has abundance of stores, and then let it alone.

Mice Trying to Reach the Bees.

My bees have had no flights for over a month. I find that mice have tunneled thru the snow to get at the dead bees as they fall at the entrance. They have gnawed some trying to get inside. Do they do any harm? If so, how can I avoid it? PENN.

ANSWER.—Of course the mice do no harm by eating the dead bees thrown out at the entrance; but they may do harm, and a whole lot of it, if they make their way into the hive. Mice in a hive will eat the honey and the bees, and they will destroy the combs. If they did neither of these things they should still be outlawed because of the harm they do by disturbing the bees at a time when entire quietness is desirable. Of course the entrance should be large enough so that a very little gnawing would be necessary for a mouse to gain admittance. But there is no need to admit the mice were the entrance ten times as large. Close the hive with wirecloth having about three meshes to the inch. That will allow free passage for the bees but exclude the mice. If not convenient to get such wirecloth, you may make a fence of wire-nails at the entrance, setting the nails about a quarter of an inch apart.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

THE HOME CIRCLE.

Isn't that an excellent heading for a new department in the "Old Reliable?" What is there on this mundane sphere comparable to the home? Demolins in his "Anglo-Saxon Superiority," which every one of our readers would do well to read and study, puts Home as one of the chief reasons why the Anglo-Saxon has outstript all the Latin races.

It is said that the French have no word for home. Aren't they to be pitied? How the very word "home" stirs us all, and how the very thought of it makes us purer and better. If the word and the thought count for so much, what shall we say of the thing itself? Demolins' work has gone thru many editions and has stirred the French people deeply.

Another work which all of us will do well to read very carefully—I have read it twice—once in the Outlook, and again in book form—is, "America's Working People," by Charles Spahr. Over and over again our author shows how much the home has to do in making the good neighbor, the thrifty citizen, no less than the patriot. In speaking of homeless workers, Spahr says, "And thus the greatest incentive to thrift was removed." He adds further, "On the side of citizenship, the gains that come from home ownership instead of tenantship are still greater."

It were quite superfluous to talk to any Americans regarding the priceless boon that we as a people possess in our delightful homes. What gives one a heavier heartache than to see a man or woman plodding along thru life alone or homeless? Our bee-keepers are almost universally blest with beautiful homes. I have so often enjoyed the fellowship of these little "heavens on earth" that I speak with no light emotion regarding them. How well I remember spending one Sunday in one of these, a little west of Chicago. The man's name was not Dr. Moth, but he did have a charming home. What a lovely Sunday that was. What solid delight we took, all thru its hours and away into the night. It was a home where the best love and fellowship reigned continuously. Ah, better than this, it was a home where God's word was read, studied and revered. It was a home where Christ's incomparable teachings were obeyed and where His spirit shone forth. I have been a better man, I am sure, ever since I made that Sunday visit. How we did enjoy the morning talk, how precious was the hour of family prayer, how delightful the church service, and how long-to-be-remembered the Sunday-school where our host was the attendant; and what a blessed afternoon and evening completed this, one of the most delightful days of my life. How often I have wisht that I might do something to multiply such homes. It is the privilege of every one of us to help to make at least one such center of good purpose and wholesome influence.

Perhaps I have said enough at present in regard to the *Home* part of our department. Especially is this true as we shall weave in every week hints and thoughts of how the glory of the home may be promoted, and its blessedness made to touch with its hallowed influence many who perhaps have never enjoyed one of their own "Home Circle!" I like that word "Circle." A circle has no end; neither has the influence of a good home. Who of us does not remember the cozy circle of our childhood? How delightful it was as we gathered about the table—father, mother, brothers and sisters—in the long winter evenings. One read the fascinating book while others at the apple-paring or in restful leisure listened and commented. Ah, those were precious circles! Father, mother, possibly some of the others of that gracious home circle mayhap have now gone to the greater circle which indeed shall have no end. But the influence is not gone. The mother-love still is the leaven that sweetens and brightens our hearts and lives; the father's good counsel and worthy example still guide us away from life's pitfalls; the loving brothers and sisters still walk by our side tho long gone to the realms of the blest. Many of us have since formed the home circle for ourselves, only to repeat what glorified our childhood homes.

It is indeed a good department of the old American Bee

Mr. E. J. Baxter and his Home Apiary, of Hancock Co., Ill.—See page 163.

Journal. It will be my earnest hope and determined effort to bring into it something each week that may happily quicken joy and lessen grief. May I not hope to have the aid of all our readers in making this department something that will be lookt forward to, week by week, as precious to those who even may not longer have interest in the apiary?

A. J. Cook.

MAXIMS FOR THE HOME CIRCLE.

I copy the following from the "Intelligencer." I know nothing of this paper, its editor, or whereabouts, but I do know that if it has much like the following it is certainly rightly named. As I read over the following, "How to Make Happy Homes," the methodist in me (and I claim to have not a little) gave forth a most hearty "Amen." As I read it later about the "home circle," I found the "Amens" came twice-repeated.

1st.—"Learn to govern yourselves and to be gentle and patient."

What could we covet more wisely for our children than that they follow this maxim? The best way to secure this is to follow it ourselves. A man who kicks or strikes his cow is bequeathing to his children a very questionable heritage. I know a man who once moved, I think, as many as twenty times during a milking, and every time with a gentle "So, boss," and a more gentle press of the teat. The poor cow had a deep sore on the nipple. To have whipt and scolded would have been rank cruelty. Such an exhibition before a child would have been a grievous blunder. I know of a father who lived to be 85 years old. He was a fine example of physicial energy and had an impetuous spirit, and yet tho I knew him very intimately, I never heard him utter a word that favored in the least of harshness to the dear, loving companion who was indeed a true helpmeet. I know a boy, tho hardly now a boy, for he is on the 30 side of the 20's, who tho he has the same spirit and temperament of the man just mentioned, yet I never knew him to lose his temper or show impatience. His parents told him as soon as he could understand that it was manly to govern one's self. They acted their teachings as far as possible. Need I say that the result has made glad hearts?

2d—"Guard your tempers, especially in seasons of ill health, irritation, and trouble, and soften them by prayer and a sense of your own shortcomings and errors. Remember that valuable as is the gift of speech, silence is often more valuable."

That is good advice. A home where such counsel prevails is a glad presence in any neighborhood. Who of us has not regretted with anguish of heart the angry word, or the irritated demeanor? How gladsome in the home is the temper that is ever controlled. How fortunate the one who can lay hold of silence when to speak is to wound. Even the bees resent the nervous, irritating mein.

3d.—"Do not expect too much from others, but remember that all have an evil nature whose development we must expect, and that we should forbear and forgive, as we often desire forbearance and forgiveness ourselves."

I will only add to this Christ's incomparable words—"Father, forgive them for they know not what they do."

4th.—"Never retort a sharp or angry word. It is the second word that makes the quarrels." This is hardly more than the 1st and 2d. Government of self and temper controlled, will always stay the angry word. The quarrel is never manly, and we do well to remember that it always takes two to make one.

5th.—"Beware of the first disagreement."

What better advice than this could be given the twain who are just forming the home circle?

6th—"Learn to speak in a gentle tone of voice." We can hardly understand how much seeming trifles like the voice-tone have to do with character. The description of Cordelia in Lear—"Her voice was gentle, soft, and low—an excellent thing in woman," is suggestive. A low tone, even in times of excitement, will generally effect more than bluster. Nervous and excitable children, especially, should be urged to gentle speech for it will surely bear fruit in character.

7th.—"Learn to say kind and pleasant things whenever opportunity offers." In other words, "Blessed are the peacemakers, for they shall be called the children of God."

8th.—Study the character of each and sympathize with all in their troubles, however small.

We may couple with this, "Inasmuch as ye have done it to one of the least of these, ye have done it unto me."

9th.—"Do not neglect little things if they can affect the comfort of others in the smallest degree."

Who has not seen homes that were constantly all aglow with little, thoughtful acts?

10th.—"Avoid moods and pets and fits of sulkiness."

If anything would convert us to the theory of the brute ancestry of man, it would be to see him in the sulks.

11th.—"Learn to deny yourself and prefer others."

This was the very essence of Christ's whole life and teachings.

12th.—"Beware of meddlers and tale-bearers."

I would add, Let us be very careful that we do not join their gruesome company.

13th.—"Never conceive a bad motive if a good one is conceivable."

Could we do otherwise if we obey the Golden Rule?

14th.—"Be gentle and firm with children."

I will add that if anything will keep a child in the right way it is that sacred thing—the mother-love. God pity the child who is bereft of it.

15th.—"Do not allow your children to be away from home at night without knowing where they are."

Is it not wise, also, to be with them ourselves? Their fullest confidence will prevent much mischief.

16th.—"Do not allow the children to go where they please on Sunday."

I know from a blessed experience that a home that is made to hold the children on Sunday will ever have their reverent gratitude. The home circle ought to keep the children at night and on Sunday.

17th—"Don't furnish them with much spending money."

I have known many college boys ruined by a plethory of greenbacks. I have known many to be made magnificent men by the stringency of hard fortune. To the man who hands out money in fullest measure to his son, I would simply say, "Don't."

HELPFUL SUGGESTIONS REQUESTED.

I shall welcome hints for the home, recipes for table articles, and any other helpful suggestions.

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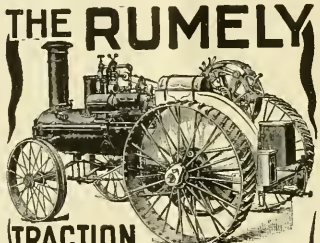

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GENERAL ITEMS

Prospects Bright—Losses by Fire.

The prospects for our bee-keepers appear to be much brighter than they were last season. We have had a pleasant winter so far—not very warm and not very cold, and reports are that as a rule where bees went into winter quarters in fairly good condition they seem to be doing very well. The snowfall is heavy, and distributed thru the State, and it is still storming; this all insures a bountiful supply of irrigation water. The chances for a dronth the coming season are growing beautifully less each day.

I read the notice of your loss by fire with much regret. Some of our bee-keepers have been badly scorcht, so that they know how to sympathize with you.

On May 1, 1896, I was awakened by a roar of fire, and got out just in time to see 50 colonies burned up in less than half that number of minutes. The fire was in a two-story lumber barn belonging to a neighbor.

I live on a lot 5x10 rods, with a street in front, and four close neighbors, and only five blocks from the business center of the city, yet in 17 years I have never had a complaint, which, judging from the troubles of some of our bee-keepers, would indicate a difference in management. I have kept from 10 to 50 colonies each year. E. S. LOVESY.

Salt Lake Co., Utah, Feb. 20.

Bees in Fine Condition—Marketing Honey.

My bees are in fine condition, and I think they are going to winter without any loss, as they always have. I have lost but one colony since I began keeping bees; that was last winter, and I am ashamed to say that it was due to a leaky cover. In the last issue of Gleanings in Bee-Culture Editor York speaks of the small producer ruining the market by selling for less than the market price. That doesn't hit me, because I get 20 cents per section for my comb honey; the extracted I put up in pint Mason jars, and sell it at 30 cents a jar. JESSE M. DONALDSON.

Worcester Co., Mass., Feb. 23.

Prospects Poor for Southern Indiana.

The thermometer has been at 10 degrees above zero for the past three days, after three weeks of mild spring weather, which started heavy brood-rearing in all colonies having plenty of stores. This will cause great losses to southern Indiana bee-keepers. The winter so far has been so open that most colonies have consumed nearly all of their stores.

There has been very little snow to protect the clovers, altho sweet clover can stand the most exposure. I am experimenting with a large number of honey-producing plants. In the river bottoms I had an acre of sunflowers that gave lots of seed for the chickens, and the bees workt on them continually last season. J. C. WALLENMEYER.

Vanderburgh Co., Ind., Feb. 22.

Rendering Wax from Old Combs.

In rendering wax out of old combs I use the following method:

Take the bail off of a 2-gallon tin pail with flaring sides, nail a stick about three feet long to the pail, so that it will project upward, then with a hammer and a 4-inch spike begin within two inches of the top to perforate the pail all the way around, and to within 3 inches of the bottom. Fill a big iron kettle about two-thirds full of combs and water (better soak them some, also break or chop them up). Hang the kettle in the yard, and start a good fire under it about sundown, if the bees are flying. After the mixture has boiled a little while take the perforated pail and begin pushing it down into the melted

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mass with a circular motion (it will take some time to get the hang of it), and as the wax flows thru the perforations I use a tin cup, or something similar, to dip out the wax and pour it into a tub half full of cold water, to be caked up in the usual way later.

The beauty of this method lies in the fact that we can keep a good fire going and keep putting in combs and taking out wax, and to facilitate matters have a wash-boiler of hot water on the cook-stove, from which we can get warm water when needed, instead of using cold water. After too much refuse accumulates in the kettle, throw out the mass and begin with a new batch.

I melted the combs from 17 of my hives last season, besides working up those from 50 or 75 on shares. Those that we workt on shares we melted in the woods near a pond, and used three kettles with fire under each.

Instead of there being 50 or 75 hives of combs I workt up what was left from about 145 colonies of bees. There were from 30 to 35 bushels of combs after they were stampt down in the wagon-box. That put the perforated pail to a severe test, and it workt splendidly.

I don't think the different solar wax-extractors are to be compared with my method of rendering wax. C. A. BUNCH.
Marshall Co., Ind., Feb. 23.

Poor Seasons—Producing Extracted Honey.

I began the spring of 1900 with 100 colonies, and secured 2,800 pounds of surplus honey, about 500 of it being comb, but secured no increase in colonies.

We have had three poor honey seasons in succession, and bee-keepers are blue, but I expect to hang on to the bees until the good seasons come again. The coming season will be my 21st one in bee-keeping. I have been a constant reader of the American Bee Journal for about 18 years, and consider it the best bee-paper publisht.

I notice that some of the expert bee-keepers allow the queen to roam around at her own sweet will, when working for extracted honey. My experience is that a first-class article of extracted honey can not be produced in this way, as pollen is sure to be stored around where the brood is reared, and this will cause the extracted honey to taste beebready (as we call it). This I know to be a fact *here*. From an experience of about 20 years in producing extracted honey, I claim that the place for the queen is in the brood-nest, and I would have queen-excluders for this purpose, if they cost $1.00 apiece. I don't want them when working for comb honey, as the queen seldom lays in the sections.

We should take as much pains to produce a No. 1 article of extracted honey as of comb, and in order to do this where much pollen is gathered we must keep the queen out of the surplus department. B. W. PECK.
Ashatabula Co., Ohio, Feb. 8.

Southern California—Queenless Colony.

The old saying, "It never rains but it pours," comes nearly being verified in Southern California this winter. Up to the last of January it lookt as tho we were bookt for another dry season, at least in San Diego County, but it rained every day but one from Feb 1st to 10th, and the ground got such a soaking as it has not received in 3 years. And now all are rejoicing, for it is pretty certain that we will have good hay and grain crops, and when these crops are good we are sure of a good honey crop. It will also be a great benefit to orchards and vineyards—even to those that have water for irrigation in summer. We have had a few showers since the soaking, and vegetation is coming on rapidly. Bees are rearing brood, and they are bringing in more than enough honey to supply their needs. I have found 2 or 3 frames of new honey in some hives.

A friend who had a couple of colonies, did not care to keep them, so gave them to me, saying that if they stored any honey the coming season, I could give him what I thought was right. After getting them home I found

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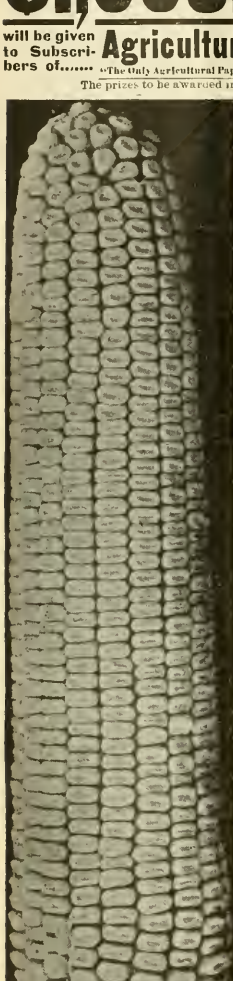

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This is a variety of corn of remarkable characteristics. It produced last year on the Epitomist Experiment Farm eighty bushels to the acre under exceedingly unfavorable conditions. The land on which it grew was of medium fertility only; the cut worms mowed it down, until there was, at one time, an intention of plowing it up, and, owing to natural conditions which we could not control, it received but one plowing. Corn that will produce eighty bushels to the acre under such conditions is exceptionally valuable. The length of the ears is from ten to twelve inches; the circumference is seven and a half inches and sometimes more; the cob is small and completely covered with grain; the grain will average a half inch in depth and same in width, and is unusually thick; the weight of grain and cob averages something over a pound, and there is over ninety per cent of grain. The **"EPITOMIST PRIZE" WHITE DENT** is an early variety that will mature anywhere within the corn belt, and to those who appreciate the value of corn fodder, it recommends itself, as it produces a luxuriant growth of stalk, many of which in our fields, were fifteen feet high. It is certainly the best variety of corn that we have ever grown or seen grown, and there is every indication that it contains an unusual per centage of protein, and the higher the per centage of protein the more valuable the corn. We have never seen stock of all kinds that was fed almost exclusively on corn, do as well as our stock has done upon the Epitomist Farm.

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is without doubt the most beautiful spot in the State of Indiana. Over $100,000 has been spent in improvements on this Experiment Farm, where **Agricultural Epitomist** is edited and printed amid the activities of real farm life. Its beauty of scenery and perfect climate, with its pure spring waters, are hard to surpass in any locality. We have at this Experiment Farm of 650 acres, all the different soils found in Indiana or in almost any other State, as well as the varied conditions requiring drainage, irrigating, enriching, etc., all to be included in our experiments which will be written up in the **Epitomist** from month to month. It is our purpose to experiment in all lines of Agriculture, Horticulture, Live Stock, Dairying, and Poultry Raising, and as the growing of this variety of Corn which we have named **"EPITOMIST PRIZE,"** is the result of one of our first and most successful experiments, we are not only going to give **Epitomist** readers some of the seed of this variety to raise, but **$1,000** in prizes the same to be awarded as described above.

Every subscriber to the **Epitomist** is entitled to participate in this contest. All we require is that you send 50 cents for one year's subscription to the **Epitomist** and 20 cents to pay for postage, packing, etc.—**70 cents all told**—upon receipt of which we will enter your subscription and send you one quart of **"EPITOMIST PRIZE" WHITE DENT CORN** by mail, postage prepaid.

FREE

READ Carefully how to get the seed. Plan Carefully how to get the Prize.

THIS EAR OF CORN represents an average ear of **"EPITOMIST PRIZE" WHITE DENT CORN** and is taken from actual nature without flattery. The crop was grown this past season of 1900 at the Epitomist Experiment Station, and we feel that the remarkable results obtained justify us in expecting subscribers to derive unusual benefit therefrom.

Address **AGRICULTURAL EPITOMIST** Box 321

Epitomist Experiment Station, SPENCER, IND.

This Contest is for EPITOMIST Subscribers Only.

one colony queenless with queen-cells started. I thought it very doubtful if any queen would become fertilized at that time of the year (Dec. 17.) as I had only two other colonies at home, and no drones to be found in any of them. (My apiary is 3 miles away.) In due course of time brood was sealed, but every one a drone, so I concluded that the next thing to do was to find a virgin queen, then the processes of Nature might go on unhindered. In looking over another colony for eggs I found a frame with a queen-cell nearly ready to be capt, which I gave to the queenless colony after removing the drone-layer, and putting all frames containing eggs and brood into another hive. In two days other queen-cells were started, then I put the drone-brood back and left them to work out their own family affairs. Twenty-seven days from the time of putting in the frame of eggs, I opened the hive and found a queen with eggs in two frames, and plenty of drones. I expected to have a case of supersedure in the hive from which I took the queen-cell, but yesterday I found plenty of eggs and brood, and concluded that her majesty had a greater reserve of vitality than her subjects gave her credit for.

F. C. WIGGINS.

San Diego Co., Calif., Feb. 20.

Using Chaff Cushions in Summer.

I have practiced leaving the chaff cushions on my hives all summer as well as winter, the last 6 or 7 years. I have tried both ways, and I find I gain at least 25 percent from the chaff-covered hives. I have noticed in very hot weather the hives not covered with chaff would be nearly empty from 10:30 a.m., to 2:30 p.m., while those protected with chaff cushions from 3 to 6 inches thick, would be apparently as full of bees as they could be and do their work.

My wife often says that I do too much experimenting, but I find it brings me the knowledge I am seeking for. There is no branch of bee-keeping in which I have not experimented. This is a progressive age, and I feel that we can not do too much to further the work of our industry. A. D. D. WOOD.

Ingham Co., Mich., Feb. 15.

Last Season a Failure.

My bees did very poorly last season, getting no surplus whatever. I hope for better things this year. C. H. DAVIDSON.

Delaware Co., N. Y., Feb. 18.

Poor Report for 1900.

The year 1900 was a poor one for bees in this part of Missouri. We got no honey at all, and I am afraid that two-thirds of the bees will die during this winter.

JOHN N. MICHAEL.

Caldwell Co., Mo., Feb. 19.

Bees Wintering Poorly.

I fear my bees are wintering badly. The weather has been very cold and windy here for about four weeks. We have had no rain since last November, and but little snow.

HENRY ALLEY.

Essex Co., Mass., Feb. 25.

Dispersing Robber Bees with Gun-Powder.

I have been a keeper of bees since the early sixties, and it goes without saying that I have experienced the usual ups and downs common to the craft; also many of the pleasant (?) experiences, as, for instance, a bad ease of robbing—in short, I have been "up against it" many times.

During all these years I have read many ways of stopping this trouble, in the current bee-literatnre of the times, but I have never seen mentioned a plan that I have often used with unfailing success. I learned it years before I kept bees, from my grandfather who often quelled disturbances with old-time and well-tried remedies. His plan was to "blow up" the robber-bees with gunpowder. About a teaspoonfnl of powder is pusht into the entrance and then "toncht off." I never knew this to fail but once, when I had an extremely bad ease that had to be treated 3 times—the

Dittmer's Foundation!

Retail—Wholesale—Jobbing.

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BEES QUEENS

Smokers, Sections, Comb Foundation and all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ills.

1901—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog.

M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

last time with a charge of powder of sufficient force to lift the honey-board off of the top of an old-style Langstroth hive. Not the slightest injury was done to the combs, except that two or three of them were blackened a little at the extreme lower edge, and very. *very* few bees were killed—just the few that happened to be in the vicinity of the powder.

Some bee-keeper may hesitate to try such an energetic remedy, fearing to destroy or injure the colony, but he has no occasion for alarm, for he will do nothing of the kind. Gunpowder is a famous peacemaker among bipeds of the genus homo, and as the genus Apis seems to possess many traits common to man, why not employ the same means to settle their quarrels? With modern hives and large entrances I think a larger charge of powder could be used without doing harm.

PEACEMAKER.

San Francisco Co., Calif., Feb. 18.

Experiences with Bumble-Bees.

I notice on page 108, Thomas Wallace gives his experience with bumble-bees. This is a matter to which I have given a great deal of attention. When I was a boy I had a great longing to hive bumble-bees, and experiment with them, and often had as many as six to eight small colonies in little boxes and tin cans. I often watcht them flying to and from their homes the same as other bees, and I tried wintering them by burying them, but never succeeded.

I used to pour a pailful of water on them in their nests to keep them under control so that I could hive them, and closing everything up tight I would start for home and add another colony to my already started apiary. I have succeeded in uniting all of my colonies, and found that the only way to do it without fighting was to smoke them (after first closing the hives) with pennyroyal until all were in an unconscious condition, then I would empty all the colonies onto the ground, place all the combs in one hive, pick the bumble-bees up with my fingers, and put them all into the hive containing the comb. By this time they were recovering from the effects of the smoke, and all was well. Each one seemed to think the other its "best friend and brother."

I tried to introduce the bumble-bee queens into colonies of our common honey-bees, but a fight was all I ever succeeded in bringing about, and all the pay I ever received for my trouble was a pair of swelled eyes, and now and then a little fun. I would call the calves up close to the hives, then give them a few sweet apples to attract their attention, then rouse the bumble-bees with a long pole, and get these fierce humble-bees to use their "swords" on the calves instead of me. But I wanted still more fun, so I finally succeeded in getting the dog close enough to get the bees after him, but I got even more fun than I had bargained for, as the dog came toward me, wanting me to share the pleasure with him, and he succeeded, for he ran after me, and I ran to keep away from him, but one of the bees got into my hair, and I had a time of it getting it out.

After several years' experience I concluded that I might as well drop the bumble-bees; still I shall not be satisfied until some one tries the plan of grafting larvæ of the bumble-bee into queen-cells or cups of the common honey-bee, making the colony hopelessly queenless and broodless, or by transferring the eggs of the bumble-bee into the comb of the honey-bee. The egg of the bumble-bee is always sealed, also the larva, and there seems to be about four different kinds of them—the worker, the queen, the drone, and there seems to be another "critter" among them.

The mating of queens is done toward the fall of the year, just outside of the nest, on the ground. All queens are reared in the latter part of the summer.

After all my experience with them I believe that if any benefit is ever derived from them it must be brought about by a cross between them and the honey-bee.

P. W. STAHLMAN.

Albany Co., N. Y., Feb. 18.

Worst Season in 10 Years.

The season of 1900 was almost a total failure in this locality—the worst we have had in 10 years. Bees did not get enough honey for winter stores, and had to be fed.

We have had an open winter up to this month, and some zero weather, but not much snow. W. D. HURT.

Cass Co., Mo., Feb. 23.

YELLOW OR WHITE

Sweet Clover Seed

Free as a Premium

For Sending us One New Subscriber for a Year.

There has been so much written about both the white and the yellow variety of sweet clover, that we will simply say here that if one of our present regular subscribers will send us $1 with a new name for this year, we will mail, postpaid, to the one sending the new name and the dollar, either **one pound** of yellow sweet clover seed, or **two** pounds of the white sweet clover. This is a good chance to get a start of both kinds of these honey clovers. Better send two new subscribers (with $2.00) and get the three pounds of seed. Address,

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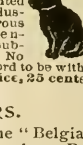
The Belgian Hare Guide

This book is acknowledged to be the finest and most reliable book out on the Belgian hare industry. It contains complete and practical information on the following and many other subjects pertaining to the industry: History and Origin, The Belgian for Utility, The Belgian for Fancy, The Business and Its Outlook, How to Begin, Houses and Hutches, Foods and Feeding, Feeding Green Stuff, Mating and Breeding, Care of the Young, Pedigrees, Score Cards and Judging, Belgian Hare Color, Dressing and Cooking, Diseases and Remedies, Preparing for Exhibition, Crating and Shipping, Caponizing, Queries and Answers, Miscellany, Belgian Hares vs. Poultry, The Belgian in England, The Belgian in California, Black Belgians and Flemish Giants. It is elegantly printed on fine paper, illustrated with numerous beautiful photo engravings, and is substantially bound. No one interested in Belgians can afford to be without it. Send your order today. Price, 25 cents.



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For $1.10 we will send the "Belgian Hare Guide" and the American Bee Journal for one year; or for $2.00 we will send the Bee Journal for two years and the "Belgian Hare Guide."

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CONVENTION NOTICE.

Utah.—The Utah Bee-Keepers' Association will hold its regular spring meeting April 5th, at 10 o'clock a.m., in the City and County Building at Salt Lake City. All are cordially invited. We expect to get out a treatise or pamphlet, the object of which will be to give the best and quickest method to discover, cure, and prevent disease among the bees, and the best way to protect them from their enemies. It will also contain other matter for the benefit of the industry, including our State law. We will be pleased to receive communications from any of our bee-keepers upon any subject along the lines indicated. Address, Pres. E. S. Lovesy, Salt Lake City, Utah, or J. B. FAGG, Sec. East Mill Creek, Utah.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, March 8.—Fancy white comb sells readily at 16 cents, but all other grades are weak at the following range of prices: No. 1, white, 14@15c; fancy amber, 12@13c; fair amber grades, 10@11c; buckwheat, fancy, 10c; off grades, 8@9c. Extracted white ranges from 7@8c; buckwheat, 5½@6c; Southern dark, 5@6c; amber grades, 6½@7½c. Beeswax in demand at 30 cents. R. A. BURNETT & Co.

KANSAS CITY, Feb. 19.—Fancy white comb, 16@16½c; amber, 12@13c; dark, 10c. Extracted, light, 9c; amber, 7½@8½c. Demand fair; receipts light. Beeswax, 22@28c.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

CINCINNATI, Feb. 9.—The market for comb honey is becoming very bare, altho the prices have not changed. Fancy white comb is still selling for 16c; no demand for darker grades. Extracted is in fair demand; dark sells for 5½c; better grades from 6½@8c; only white clover brings from 8½@9c. Beeswax, 28c.

C. H. W. WEBER.

ALBANY, N. Y., Feb. 11.—Honey market is dull and prices nominal; light stock, but the cold weather is bad for it. Comb, in good order, not candied, white, 15@16c; mixt, 13@14c; dark and buckwheat, 11@12c. Extracted, white, 7@8c; mixt, 6@6½c; dark, 5½@6c.

H. R. WRIGHT.

BUFFALO, Mar. 7.—Fancy, 15@16c; No. 1, 14@15c; No. 2, 11@13c; No. 3, etc., 8@10c. Extracted, 8@9c. Beeswax, 27@28c.

All grades of honey selling fairly well, and looks as if all lots would clean up.

BATTERSON & Co.

BOSTON, Feb. 8.—Fancy No. 1 white in cartons, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. Absolutely no call for dark honey this year. Extracted, white, 8@8½c; light amber, 7½@8c. Beeswax, 27c.

BLAKE, SCOTT & LEE.

NEW YORK, Feb. 19.—Comb honey is being well cleaned up on our market. The demand has lessened to quite an extent, on account, we presume, of the high prices which have been ruling. Fancy white still brings 15@16c in a small way; No. 1 white, 13@14c; amber, 11@12c; buckwheat, 10c. Extracted rather dull and not much doing. California white honey, 7½@8c a pound; light amber, 7c; Southern, from 60 to 70c per gallon; buckwheat, 5@5½c. Beeswax steady at 28c. HILDRETH & SEGELKEN.

DETROIT, Mar. 7.—Fancy white comb, 15@16c; No. 1, 14@15c; dark and amber, 10@13c Extracted, white, 6¾@7c; amber and dark, 5@6c. Beeswax, 27@28c. M. H. HUNT & SON.

SAN FRANCISCO, Feb. 6.—White comb 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber, 6¾@7¼c; amber, 5½@6½c. Beeswax, 26@28c.

Considering the light output of honey last spring from California apiaries, present offerings are of tolerably liberal volume and are mostly of amber grades. The market is slow at the quotations. It is reported on good authority that adulterated and imitation honey is being dealt out in considerable quantity, which accounts in a great measure for the very limited business doing in the pure article.

HONEY MARKET.—We may have a customer within a short distance of you who wants your honey or beeswax. We are in close touch with all the markets; therefore write us regarding your crop, stating quantity, quality, and lowest cash price. References—Either Bank here for any business man in this city.

THOS. C. STANLEY & SON, Fairfield, Ill.

—DO YOU WANT A—

High Grade of Italian Queens

OR A CHOICE STRAWBERRY?

Send for descriptive price-list.

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47A26t Mention the American Bee Journal.

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We have a Large Stock on hand and can ship promptly.

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200-Egg Incubator for $12.00

Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.
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And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	60c	$1.00	$2.25	$4.00
Sweet Clover (yellow)	$1.50	2.80	6.25	12.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	90c	1.70	3.75	7.00
White Clover	90c	1.70	4.00	7.50
Alfalfa Clover	80c	1.40	3.25	6.00
Japanese Buckwheat	30c	.50	1.00	1.60

Prices subject to market changes.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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A MAN OF PRACTICAL EXPERIENCE AND ABILITY to care for 150 to 200 colonies of bees. Address,

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11Atf RIVER FOREST, COOK CO., ILL.

I ARISE

To say to the readers of the BEE JOURNAL that

DOOLITTLE...

has concluded to sell QUEENS in their season during 1901, at the following prices:

1 Untested Queen ..$1.00
3 Untested Queens.. 2.25
1 Tested Queen 1.25
3 Tested Queens.... 3.00
1 select tested queen 1.50
3 " " Queens 4.00
Select Tested Queen, last year's rearing 2.50
Extra selected breeding, the very best..5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t Borodino, Onondaga Co., N. Y.
Please mention Bee Journal when writing.

24th Year **Dadant's Foundation.** 24th Year

We guarantee satisfaction. ✲✲

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PATENT WEED-PROCESS SHEETING.

Why does it sell so well? ✲✲

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

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Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

LANGSTROTH on the HONEY-BEE—Revised
The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

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$200 Red-Clover Queen

Offer No. 35.

On September 1st last we announced that we finally had a red-clover queen fully equal to the one we had years ago. The colony of this queen has given one of the most remarkable showings on red clover of any bees we have ever had. The queen in question is an imported one, and therefore of the genuine pure leather-colored Italian stock. We sent out daughters from her all the season. But we did not discover her value until the clover season, second growth, came on, and then her colony so out-distanced all the other 450 that she attracted attention at once.

It must be understood that these queens are not golden yellow, neither are their bees of the five-banded stock. They are simply leather-colored Italians whose mother came direct from Italy.

Since the notice appeared regarding this queen we have hardly been able to supply all of the queens that were wanted from this stock. Many daughters of this queen we sent out before we knew her value, and it now transpires that some of the finest bees in the land are from queens we sent out early. We are now booking orders for the coming season, and make the following offer, but no queens will be furnisht except those that subscribe for Gleanings, and only one with each year's subscription. All arrearages must be paid to the end of this year. Gleanings for 1901 and one untested red-clover queen, $2.00; Gleanings one year and a tested red-clover queen, $4.00; a select tested red-clover queen and Gleanings one year for $6.00. We will begin mailing these queens in June, 1901. Orders are already entered, and the same will be filled in rotation. Do not neglect to improve this opportunity and get some choice stock, and send your order early so you may get the queen correspondingly early in the season. We are using every precaution to winter this queen safely, but reserve the right in case of her loss this winter to substitute from other select tested stock of this strain which we are holding in reserve, or to give the subscriber the benefit of any of our other clubbing offers if desired.

THE A. I. ROOT CO., Medina, Ohio.

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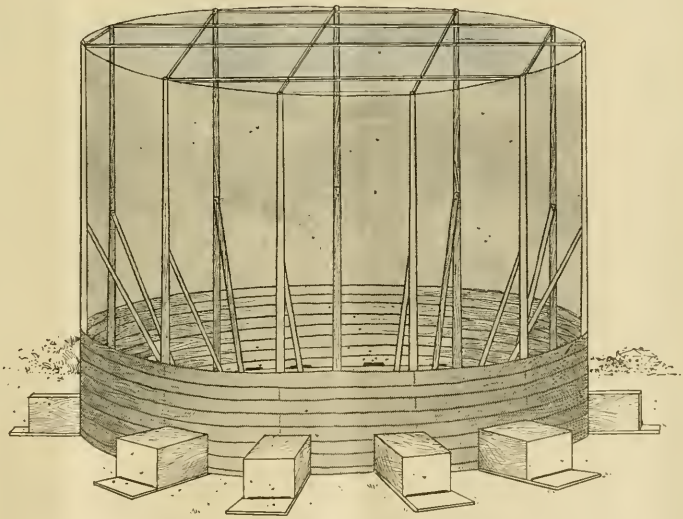
AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., MARCH 21, 1901.

FORTY-FIRST YEAR
No. 12.

WEEKLY



Tent for Controlling the Mating of Queens.
(*See page 181.*)

—Courtesy Bee-Keepers' Review.

THE AMERICAN BEE JOURNAL

PUBLISHT WEEKLY BY

GEORGE W. YORK & CO.

144 & 146 Erie St., Chicago, Ill.

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To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey commissionmen.

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ARE DEMANDED NOW.

ONE Untested Italian Queen FREE as a Premium for sending us TWO new subscribers to the American Bee Journal for one year (with $2); or, one Tested Queen free as a premium for sending us FOUR new subscribers (with $4.00.)

We have arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us the coming season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

Orders for these fine, "long-reach" queens will be filled in rotation—"first come, first served"—beginning about June 10th. It is expected that orders can be filled quite promptly, as a large number of nuclei will be run. All queens will be guaranteed to arrive in good condition, and all will be clipt, unless otherwise ordered.

CASH PRICES of these fine queens will be as follows: Untested, $1.00 each; Tested, $2.00 each. Send all orders to

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144 & 146 Erie St., CHICAGO, ILL.

28 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 28 cents a pound—CASH—for best yellow, upon its receipt, or 30 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., CHICAGO.

Best White **Alfalfa or Basswood Extracted Honey**

ALL IN 60-POUND TIN CANS.

ALFALFA HONEY.....

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.

BASSWOOD HONEY.....

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms in Wisconsin. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

A sample of either, by mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. The cans are boxt.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

Address,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., MARCH 21, 1901. No. 12.

Editorial Comments.

Large Yields of Honey.—Mr. Frank Benton says: "Mr. Doolittle is mistaken regarding what he says in the last four or five lines over his name, on page 147. Cyprian bees were sent to America in 1880. The yield of 1,000 pounds, in 1881 or 1882, in Texas, was by B. F. Carroll, from Cyprians I sent over."

Honey Prospects in Southern California.—Prof. A. J. Cook, of Los Angeles Co., Calif., writing us March 8th, had this to say regarding the prospects for a honey crop:

"The bee-keepers all thru southern California are pleased with the prospects for the coming season. We have had a generous rainfall, and may assuredly expect a bountiful honey crop. The State and three county associations have held meetings within a few days. All are rejoicingly expectant."

Bee-Glue or Propolis in Paint.—Dr. J. M. Ross, of Clearfield Co., Pa., wrote us as follows recently:

EDITOR YORK:—Enclosed find two samples of painting from bee-glue colored with dry paint—bee-glue dissolved in wood-alcohol. I believe it will stand the weather better than oil paints.

(DR.) J. M. ROSS.

This is decidedly interesting, and perhaps well worth following up. The paint seems to have a fair body, and is with difficulty scraped off the wood. It is possible, and indeed probable, that for some purposes, at least, this paint may be ahead of other paints. If so, there is a possibility of a boom for Tunisian bees. At any rate, if propolis should become a merchantable article, the scraping it off will not be considered the same drudgery that it now is.

Bee-Keeping Within City Limits.—Last week we received the following from Mr. J. C. Wallenmeyer, of Vanderburgh Co., Ind.:

EDITOR AMERICAN BEE JOURNAL:—A bee-keeper of Evansville—Mr. Buhmeir—was fined $5 and costs, March 6th, for violating a city ordinance, which forbids the keeping of bees in the city, or one-half mile from the city limits. The ordinance went into effect Jan. 1st, and many bee-keepers delayed moving their bees until they saw whether the city authorities intended to enforce the ordinance. The passing of the ordinance was a result of Mr. J. J. Cosby's bees soiling his neighbor's washings, when taking cleansing flights, and also stinging a horse, altho he made good all the damage done. The above suit was brought about by a relative, who got the worst of a will, and so took advantage of the bee-ordinance to retaliate. More suits to follow. J. C. WALLENMEYER.

Upon receipt of the above communication we wondered how many bee-keepers in and about Evansville are members of the National Bee-Keepers' Association. If they are not already members they should join at once, before getting into any further trouble.

We would like to suggest that the Board of Directors of the Association look into this matter, and see what they can do to have the city ordinance declared null and void. We see no reason why such should not be done, and done immediately. There is no reason why bees should not be kept within the limits of any city on the globe. Of course, there may be special cases where they might possibly become troublesome, but any reasonable bee-keeper would not continue to keep bees where they were a source of real annoyance to his neighbors.

There are many small apiaries in quite thickly settled portions of Chicago, and there are also a number of quite large apiaries further out, but yet within the city limits. So far as we know, they cause no real trouble to any one, while they are a source of considerable revenue and enjoyment to those who own them.

We hope Mr. Wallenmeyer will take up this subject with General Manager Secor, with a view to seeing what can be done to put an end to the "more suits to follow."

The "Cotton" Controllable Bee-Hive Fraud.—Mr. C. S. Blake, of Middlesex Co., Mass., has sent us the annual circular for 1901 of "The Controllable Bee-Hive and New System of Bee-Keeping, invented by Mrs. Lizzie E. Cotton, about 1878, now owned by C. B. Cotton." Referring to it, Mr. Blake says:

"It must be all fraud. Would it not be well to expose it in the American Bee Journal? Some 23 years ago a lot of us were bitten by this same Lizzie E. Cotton, now under the name of C. B. Cotton."

Yes, it may be well once more to occupy a little of our space in warning bee-keepers against this old fraud. In 1897, one of our subscribers sent us a similar circular dated 1896. In it we found a testimonial which reads as follows:

Hon. Robert W. Furnas, Governor of Nebraska, says:

Having used the "New System of Bee-Keeping" and found it a success, I recommend it cheerfully to others.

ROBERT W. FURNAS.

Upon receipt of the circular we immediately wrote to the Hon. Mr. Furnas, under date of April 26, 1897, saying that we had noticed his testimonial in a circular sent out by Cotton, and askt him to let us know the extent of his experience with the Cotton hive and system; also, whether he still recommended it. The following is his reply:

BROWNVILLE, NEBR., April 29, 1897.

GEORGE W. YORK & CO.

Sirs:—I have no remembrance of giving the testimonial referred to. Nor do I call to mind "The New System of Bee-Keeping" named.

Very truly, ROBERT W. FURNAS.

There you have pretty good proof of the fraudulent character of the Cotton outfit, and all bee-keepers will do well to beware of it.

With the Cotton circular of 1896 there was offered a full colony of Italian bees in the "Controllable Hive" (6 movable frames), with full set of 85 one-pound boxes with starters of foundation, feeders ready for feeding, and also a book giving full instructions how to manage bees by the wonderful new Cotton system of bee-keeping!—this whole outfit was offered for only $20, f. o. b., the express office in the State of Maine!

In the 1901 circular we find the entire outfit is offered for $6, and 95 boxes instead of 85 are included with each hive. This is getting down more nearly to business in price, but the inducements held out to prospective bee-keepers to invest are somewhat remarkable. For instance, read the following paragraph:

"Two of the largest yields of box-honey I ever obtained, and which I think hard to excel, were as follows, viz.: I selected one of my best swarms in early spring; I fed them and treated them with the object of obtaining the greatest possible yield of box-honey. I arranged to have no increase in *number of swarms*, but to employ *all the bees storing honey in the boxes*. They gave me a little over 380 pounds of nice honey in boxes. Another, a young swarm hived in the Controllable Hive July 1st, yielded in 10 days *one hundred and four pounds of nice honey in boxes*."

Our Cotton friend also has the following paragraph in his circular, referring to "bee-journals and other publications," which is quite interesting:

BEWARE OF COUNTERFEITS.

Please remember, if you want the Controllable Hive with book, giving full instructions for the management of bees, send your order direct to me. *Beware* of that class who are slandering and lying against me and the Controllable Hive. They do this thru the *bee-journals* and other *publications that they can control*; believe them not. They are

interested in some *patent* or *non-patent or worthless hive or fixtures*, and are broiling over with wrath against me, because the Controllable Hive is steadily gaining in the estimation of all honest bee-keepers, and the demand for the thousand patent and non-patent *worthless hives* is steadily on the decrease. *A word to the wise is sufficient.*

We think further comment is hardly necessary, as no reader of any of the present-day bee-papers would be caught by the successor of the fraudulent "Lizzie." It is pretty safe to put it down as a rule that when too much is claimed for a particular hive—especially if the beautiful word "controllable" is emphasized rather strongly—the whole outfit is a pretty good thing to let alone.

The Weekly Budget.

Hon. Eugene Secor helpt to entertain the Upper Des Moines Editorial Association, Feb. 15th, at Forest City, Iowa—his home town. From the local newspaper reports they had a jolly time. Mr. Secor gave a reply to a toast, and of course did it in rhyme, something after the Will Carleton style. If it weren't so long we would reprint it, and to make extracts from it would spoil it. Mr. Secor knows how to entertain, and also how to "jolly 'em up" with his poetical pen.

* * * * *

Mr. D. H. Metcalf, of Calhoun Co., Mich., writes us that in his article on page 158 we made him say that he "hunts bees for a living." This must be quite an error, as he says that every pound of honey he gets out of a bee-tree *costs* him $1.00! The fact is, he puts in his leisure time and vacations in hunting bees. He says, however, that we may possibly be correct, after all, as to his hunting bees for a living, as he believes it has prolonged his life, every bee-hunt giving him renewed health and strength.

* * * * *

Anniversaries and Birthdays.—Recently we received the following from a reader who signs himself "Old Fogy:"

Mr. Editor:—I've become used to your new-fangled way of *spelling*, and rather like it, but I don't know about your reform in the *meaning* of words. Do Rev. A. B. Mettler and you (page 132) mean we shall pay no attention whatever to the dictionary, and just go by your say so? He was born Feb. 1, 1844, and you say each Feb. 1st since then was an anniversary. The dictionary says such an anniversary is a birthday, and according to that he has had a lot of birthdays, and the first day of next February will also be his birthday whether he is then alive or not. Now, what do you say? Shall we go by the dictionary or take the Mettler-York plan? Old Fogy.

Seeing this is mostly Mr. Mettler's "funeral"—or birthday—we'll let him wiggle out first.

* * * * *

Mr. W. A. Pryal, of Alameda Co., Calif., wrote us as follows, March 10th:

My Dear Mr. York:—You have no doubt been fully informed about the splendid rainfalls we have had in this [central] part of the State. They have been abundant. For about two weeks up to last night, the weather was fine. At the latter time, without any warning to mention, rain set in again and fell copiously thru the night and a portion of the day. The prospects are good for still more.

There is already an abundant supply of flowers. In some places the hills and the fields in the lowlands are yellow with honey-producing flowers. This is saying nothing of countless other flowers that are in bloom, which includes the Australian blue-gum, acacias, willows, alfillaree, etc.

Out by the side of the Pacific Ocean, whither I go when I have the time (an electric car line a step from in front of our office runs direct to Old Pacific in about 40 minutes), and on the very edge of the ocean I find an abundance of honey-secreting flowers. Over home, where I was a week ago, I found my bees working with a will. Some colonies were on the point of swarming. As the apiary had not the attention last year that I used to give it when living on the old homestead, I found that some of the colonies had gone the way that bees are apt to go when not properly looked after. It may be possible that I may soon be able to give them some attention again. I like to look after them.

W. A. Pryal.

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

Contributed Articles.

No. 1.—Drone-Bees and Their Utility.

Can We, and Shall We, Control Their Production?

BY C. P. DADANT.

THE discussion on the utility of the drones in the hive under domestication, which was considered at length at the Paris Congress, has led to the expression of opinions from several bee-keepers in different publications on this subject, and I have concluded to bring the matter before the readers of the American Bee Journal with the hope that it may lead to further investigations and experiments. It is my intention, if permitted, to explain the subject at length, so that even beginners may see and understand the importance of the proposition set forth. So I will expect to develop the matter in two or more articles.

That the drone is an idler we all know, even those who have but a very faint knowledge of his physiology, for the name "drone" is proverbial as designating a useless being. As early as the beginning of the seventeenth century, Butler, (a writer on agriculture and bees), described the male bee as "a gross, stingless bee, that spendeth his time in gluttony and idleness.....worketh not at all, either at home or abroad, and yet spendeth as much as two laborers." We all know that the drone flies out only when the sun is high and the weather warm; that he does not go out in search of honey, never goes into a blossom, but only roams about for pleasure, and always comes home to eat. We also know that he occupies a great deal more room in the hive than his sister, the worker-bee, for the cells in which the drones hatch measure four to the inch, while the worker-cells measure five to the inch. Thus one square inch of worker-comb can hatch between 53 and 55 workers, while a square inch of drone-comb can contain only some 36 drones. Altho Butler said that they eat as much as two of the workers, it is not likely that they spend so much, but it is probable that it costs as much food to rear and hatch the drones in a square foot of comb as it costs to hatch the workers that occupy the same space. This looks to me quite a reasonable presumption, and in the absence of actual evidence we can take it for granted that 5,000 drones cost as much food to become perfect insects as 7,500 workers would cost.

In his physiology the drone shows the purpose for which he is made, by the differences existing between him and the other inhabitants of the hive. Aside from the difference in the sexual organs, the drone shows a much greater power of vision by the extraordinary number of facets in his compound eyes, numbering, according to Cheshire, as many as 13,000 on each side of the head, while the facets of the composite eye of the worker-bee number only abont 6,300. It is evident that the purpose of this extraordinary vision is for the finding of the young queen while on the wing, since it is of great importance that she should be enabled to meet with a drone at her first flight, for the life of the colony usually depends upon her successful mating and prompt return. It is certainly also for this reason that so many drones are reared in the hives during the swarming season. If only half a dozen or so of drones were reared, it would be very difficult for the queen to find one of them, and several repeated flights for this purpose would endanger her life the more. But the drone plainly shows that he was not born for work, by the shape of his legs, which have none of the pollen-baskets that serve the worker-bee in bringing a load home, and by the shortness of his tongue. His proboscis is not made to lap honey out of the blossoms, but only to suck it out of the store-cell, so the poor fellow is surely not to blame if he is lazy and worthless. He only follows his destiny. But his faculty for flight is remarkable, since altho his bulk is only one half more than that of the worker, his wing-area is to that of the worker as nine is to five. This is another instance of his adaptability to the purpose of his existence. The mating with the queen taking place only in full flight, it is necessary that he should be able to overtake her, and the natural law of intermixture between different families

makes it imperative that the mating should be between queen and drones of different colonies.

A short flight on the part of both queen and drone would lead to the probable mating of inhabitants of the same hive—brother and sister—and Nature carefully avoids this in all beings.

The natural, instinctive knowledge of the necessity of having drones in the hive at some seasons, is very strongly markt in the worker-bee. Drones are rarely kept over winter in normal conditions—they are usually killed, or driven away at the end of the harvest, yet we all know that if a colony remains queenless, its bees will not only fail to kill their drones at the beginning of winter, but will even accept drones which have been driven out of other hives. This I know from personal experience, for I have seen Italian drones, late in the fall in a queenless hive which contained only black bees. These drones could not have been reared there, but had evidently come to it when driven from their home, and the bees, altho having no possible use for them, had accepted them. It is plain, that realizing the need of a queen, and vainly in hope of securing one, they keep the drones with them in the expectation that they may be needed. It is in part also for this same reason that a queenless colony builds only drone-comb.

Unless a queen is old, or unhealthy, or unfertilized, she willnot lay drone-eggs until the colony is already well supplied with worker-bees and brood. She will pass over drone-comb, and carefully select only such cells as are suitable for worker-bees. This shows conclusively that she does not like to lay eggs in drone-cells. As her eggs are fertilized in passing out of her oviduct, and only when they are to be worker-bees and are laid in worker-cells, it is quite probable that she finds more pleasure in laying these than in laying the drone-eggs, which microscopists tell us pass out of her body without being fertilized at all.

This ability on the part of a female insect to lay eggs that will hatch altho unimpregnated, was discovered in the honey-bee by the famous Dzierzon, and has long been disputed as incorrect. It is called "parthenogenesis."

But when she has been laying a great number of worker-eggs, the queen very probably becomes tired of the function, and as the eggs keep coming she seeks rest by hunting for larger cells and laying drone-eggs. This would explain why, at certain times, she will hunt for drone-cells. As a matter of course these likes and dislikes of the queen are all presumptions, but the evidence is very favorable to the views we take, and even slight circumstantial evidences lead to the same conclusion. For instance, a young queen that is healthy and vigorous, will lay a much less number of drone-eggs than an old queen. She evidently feels well and enjoys it. That a queen can not usually lay worker-eggs in drone-combs was evidenced by an experiment made by a Mr. Drory, of Bordeaux, France, some 20 years ago. A swarm was supplied with nothing but drone-combs. For quite a number of days no eggs were laid except a few drone-eggs, and finally the worker-bees reduced the outer opening of a number of drone-cells so as to narrow them down to the size of worker-cells, and the queen laid a few eggs in them.

In my next I will consider the reasons which cause worker-bees to build a greater or lesser proportion of drone-comb in the hive. Hancock Co., Ill.

(To be continued.)

The Mating of Queens in Confinement.

BY J. S. DAVITTE.

REPLYING to an inquiry as to how I got queens mated in confinement, I will say that I built a large tent, 30 feet in diameter and 30 feet high, the covering being of mosquito-netting. Colonies of bees well supplied with drones were placed close up against the wall of the tent, on the outside, each colony being allowed two entrances. One entrance opened outside of the tent, and was contracted so that neither queens nor drones could pass, but allowed the workers to pass out and in, and work in the fields in the usual manner. The other entrance opened into the tent, and was large enough for the passage of a queen or drone; but it was kept closed or darkened for about a week after the colony was placed in position. This was done for the purpose of educating the workers to use the outside entrance. The drones were not allowed to use the outer entrance at any time, nor to enter the tent except from 11:00 a. m. until 1:30 p. m. After the drones had learned the bounds of the tent, they seemed contented, and made a very pretty "school" flying in the top of the tent.

And I wish to say right here that the *drones* are the main feature of this problem. Once you get them *quiet and reconciled* to fly in the top of the tent, the problem is solved. Nine times out of ten the queen will not reach the top of the tent before receiving the most prompt and gushing attention.

After I got the drones under control I had no difficulty. I simply turned in the queens from the hives they were in, just the same as I turned in the drones. I one year reared about 100 queens and had them mated in this tent. A queen would leave the mouth of the hive, and return in about five minutes, apparently mated; and in three or four days would be laying; and the progeny of all queens thus mated showed the same markings as the workers of the colonies from which the drones were taken.

The workers seem to be more annoyed than the drones when they find themselves confined in the tent; and I aim to keep them out of the tent as much as possible by not opening the tent-entrance until nearly noon, when most of the workers are in the field. As a further precaution, the tent-entrance is kept shaded or darkened.

The queens are not turned in until the drones appear to be well satisfied with the bounds of the tent; and when they are in this condition I believe that 500 queens a day might be mated in such a tent. Where queen-rearing is carried on upon a larger scale, I believe that this plan would be preferable to the open air; as I have seen a young queen leave the hive, in the open air, as many as three times, and be gone 15 minutes each trip, returning at last unmated.

My plan for queen-rearing is as follows: I choose a choice colony from which I wish to rear my queens; and from this colony I remove the queen, and allow the bees to build queen-cells. At the same time I make queenless such colonies as I wish to break up into nuclei. Two days before the queens will hatch, I form my nuclei, cutting out and destroying all cells, and arranging the nuclei around the bottom of the mating tent. The queen-cells from the choice stock are then cut out and given to the nuclei, the outer entrances contracted so that no queen can pass, and the inner entrances closed entirely. After the young queens are two or three days old, I open the tent entrances at 11:00 a. m., and leave them open until 1:30 p. m., each day, for several days, or until the queens are mated.

Now for the drones: At the same time that I remove the queen from the choice stock for the purpose of securing queen-cells, I place several hives that are strong with select drones around the walls of my tent, with the outer entrances contracted, as already explained, so that no queens or drones can pass, and, at 11:00 o'clock each day I open the inner entrance and leave it open until 1:30. With this daily exercise in the tent for 16 days, I have my drones tamed, or accustomed to their surroundings, or under control, so to speak; and it would interest a bee-keeper to take his place inside the tent at noon, and see the ladies meet the gentlemen, who, Barkis-like, are "willin." I have seen the mating take place before the queen could reach the top of the tent. Before they separate, the queen and drone fall nearly to the ground, and the queen goes directly to her home that she left not three minutes before.

If I were to build another mating-tent, I should build it about as follows: I would secure 12 tall poles. I would have them at least 30 feet long—40 would be better. These I would plant firmly in the ground, 12 feet apart in a circle. From pole to pole, at the top, I would stretch No. 10 wire to keep the poles true and in place. I would also brace the poles from the inside; and the braces would be allowed to go up 20 feet on the inside, as the drones use only the upper part of the tent. At the top of the poles I would also stretch No. 10 wire from each pole to its opposite neighbor, thus strengthening the structure and furnishing support for the covering that goes over the top. I strengthen every seam of my netting by stitching on a strip of bridle-rein stuff about an inch in width. This allows me to stretch the covering very even and tight without tearing it. Common boards can be used around the bottom to the height of five or six feet. At noon the tent should have the appearance of a sun-palace.—Bee-Keepers' Review.

Polk Co., Ga., Jan. 22, 1901.

[Editor Hutchinson has this comment on the subject of mating queens in confinement.—EDITOR.]

In taking up this subject, perhaps some of my readers will think that I am foolish, or visionary, or chasing an

ignis-fatuus. If you wish to see a bee-keeper draw up the corners of his mouth, mention this subject. When this subject was first brought up it was lookt upon in all seriousness. Of late it is mentioned only with ridicule. The man who would propose to accomplish anything practical in this line would be clast with the man who is trying to invent perpetual motion.

Seriously, is it wise to discourage attempts in this direction? There is no doubt that there is as much difference in bees as there is in other domestic animals; and the one thing needful to enable us to develop strains of bees superior to those that we now possess, is control of the mating of the queens. Where would our short-horns, Jerseys, Merinos. Poland Chinas and Plymouth Rocks be now if the mating of these animals had been no more under our control than is the mating or our queen-bees? The next great step that we ought to take in apiculture is that of securing control of the mating of the queens. It is of sufficient importance to deserve much careful experimentation.

A Mr. LaVake, of Florida, wrote me that he thought queen-breeders might do away with the sending out of so many mismated queens if they would have them mated in confinement. I replied in the usual strain that it had been tried and abandoned as a hopeless task. I askt him to let me know who had ever tried it, and made a practical success of it. He gave me the name of Mr. J. S. Davitte, of Georgia. I entered into correspondence with him, and from this correspondence I have gathered, arranged and condenst his article. The reading of the letters from Mr. Davitte aroused my interest to the highest point. He writes in such a way, and gives details so thoroly, that he has convinced me of his success.

I have spent considerable time in looking up and reading everything that I could find upon this subject. As I look at it now, the principal trouble has been that the drones have not been brought under control. When a drone has been accustomed to soar away thru the blue ether for miles and miles, he is not going to be shut up in a little 30-foot tent and be contented. For a long time, at least, he is going to spend all of his time in trying to get out. He is in no mood to pay his addresses to a queen. Catch two wild birds at mating-season, and shut them in a cage. Do you suppose they would mate? Canaries have been kept in captivity for many years, and they readily mate in a cage. Mr. Davitte had his drones flying for days in his tent before any queens were releast in the tent. Perhaps many of those drones had never flown in the outside air—knew nothing of it. Having flown for several days in the tent they became accustomed to that kind of flight, were in a normal condition, and ready to mate with a queen should one appear.

Suppose we could make a cage two miles wide and half a mile high. Is there any doubt that a queen would be mated inside such a tent? Suppose it were reduced to one mile in width, and one-fourth of a mile high. Don't you suppose it would be a success? The question then is: How small can it be and still be a success? My opinion is that the size is not so very material as it is to get the drones to fly and *feel at home*. One large enough for that is, in my opinion, large enough. Mr. Davitte, who has had experience, puts it at about 50 feet in width and 30 to 40 feet in height.

There is still one more point: Not all drones, at all ages, are capable of fertilizing a queen. Many have failed from not understanding this point. They have put nuclei, with young queens, into a tent, then caught drones at haphazard and put them into the tent. Some of them may have been youngsters, just out of their cradles, so to speak. Others may have been "old greybeards." All of them would certainly have been frightened out of their wits to be caught and shut up in a tent away from their home. I think that Mr. Davitte has found the key that will unlock the problem, viz: That of getting drones from a normal colony, that is, working undisturbed in the open air, to fly *unworried* inside an enclosure.

If I had the time, money, bees and opportunity, I should certainly build a mating-tent another season and test the matter to my own satisfaction. By the way, this is the work for an experiment station. To be sure, Prof. McLain *did* try this experiment, but the conditions were such as to make it of small value. The queen-breeder who will build such a tent, and succeed with it, will certainly have one of the biggest advertisements that could possibly be secured for a queen-breeder. I wish that some one who is in position to make the experiment would build such a tent and give the matter a fair trial. Even if it should not prove to be the brilliant success that is reported by Mr. Davitte, it might be a start, or a beginning of something that would eventually lead to success.

Don't let us lose our heads with enthusiasm, nor toss the matter aside with contempt and ridicule. With the new light that we now have on the subject, let us give it careful, thoro trial, standing ready to meet either failure or success.

Can Almost Any One Keep Bees?

BY A. C. SANFORD.

WHO may keep bees? The professional certainly may because he knows all the ups and downs, the crooks and turns, the successes and losses, and knows how to make the best of them. But the many who would like to keep a few colonies in order to get a family supply of the delicious and wholesome God-given sweet, lack the experience that often costs much, and is therefore valuable. Almost any one can learn how to manage the swarming, and how and when to put on supers; and, last but not least comes the wintering problem. Most Northern bee-keepers prefer to winter their bees in the cellar or a cave, as it takes far less honey and is generally the most successful plan—at least in Wisconsin. In these days we have text-books on bee-culture and all the science and mysteries of the honey-bee may be learned, but the actual practice and experience is another thing.

I well remember my experience with the first colony of bees I ever had. It swarmed only once, then the parent colony became destitute of a queen. I told a neighbor that I thought something was wrong, but he thought not because the bees were carrying in pollen. Later I found that the queen had an imperfect wing, had never met a drone, and produced only drone-eggs, so I lost the colony. The following spring I purchast a few colonies in box-hives, and transferred them into movable-frame hives. It was then I first attempted to make a swarm by dividing, and the bees swarmed out; but I soon learned a great many things and made the bees pay.

Many people would keep bees if they were not afraid of the stings. Of course there are some to whom the sting of a bee is poisonous, and they will do well to let bees alone. But such people are few, and if one intends to keep bees he must make up his mind that he is going to endure the stings, and in due time his system will get used to them. The pain may be relieved with wet salt, hartshorn, mud, etc., or by quickly pulling out the sting. If one is careful he is not likely to get very many stings, but if he thinks that he never will be stung he is very much mistaken.

Two very essential things in handling bees are a bee-veil and a first-class smoker, with an ample supply of smoke-making material. Smoke is a great protection, and if the bees fly about you angrily give them a generous dose.

Women-folks can learn to care for bees as easily as they do for chickens, if they only have the courage and the pluck. It is much easier to learn to keep bees than it is to learn to play the piano. And then think of the delicious honey you will have to sell and to eat!

Pierce Co., Wis.

A South Dakota Bee-Keeper and His Little Apiary.

MR. EDITOR:—Being a reader of The American Bee Journal, I presume you would like to hear something about how one of its pupils is getting along. I was just on the meridian line (in age) when the bee-fever struck me, having spent most of my life in Chicago, and other cities. I am sorry now that I did not start keeping bees 25 years earlier. When I came out here I told my neighbor (an old bee-master) that I intended to keep bees, and he told me that they might live all right providing I would feed them all summer and give them enough in the fall to last them all winter. Happy the man who thus expects but little, for he will never be disappointed.

I found out that this is a very poor country in which to keep bees, for we have little timber, no clover, or any other honey-plants that amount to anything. We have dwarf sunflowers in abundance, and they furnish a little honey of an inferior grade. Sweet clover grows tall if irrigated, but on waste land or on the roadsides it doesn't thrive. I tried buckwheat, but the bees did not work on it, and, besides all this, the wind blows here sometimes so furiously that if the hive-entrances were the size of a stovepipe the bees would hardly be able to reach them.

This experience has not taken the bee-fever out of me, but it caused me to move to a more favorable locality. I think bee-keeping is the most healthy and pleasant occupation in the world, and it is enough to make me shudder when I think back, of city life, where some of you folks are working under a gas-jet in dimly lighted rooms or basements; or how I used to grab my hat and coat at noontime, make a rush for the street, jump past the coming street-car, and make a break for the restaurant to swallow my lunch and get back again to get out this or that order. Yes, a feeling comes over me like a nightmare, when I think of watching for that ball on the Masonic Temple to drop, and set my watch by it so as not to miss the suburban train in the morning. But the bee-keeper looks for the sun to turn around the gable, which is near enough for him to tell that it is noon; and when you city folks are hustling and bustling in smoldering basements, the bee-keeper, surrounded by birds and vegetation, works in his garden, from where he can watch his bees, or else fans himself under a shade-tree and waits for swarms.

To return to my bees, I will say that I have "A B C of Bee-Culture," Langstroth, and Prof. Cook's Manual, as my guides, and the extent to which I appreciate the American Bee Journal is shown in the accompanying photograph, where it is represented by a wheel (or "journal.")

Being a mechanic I was bound to make my own hives, altho they cost me as much for material as the price I could buy good chaff hives for. My neighbor calls them "dandies," and says they are the finest hives he ever saw. I am ready to admit that this credit is not altogether due to me, for they are but a combination of other people's brains. The general shape was taken from Root's, the portico from Langstroth's, and the telescope feature of the body over the bottom was taken from Dadant's, which enables me to put a frame between the body and filled chaff bottom for wintering. For the pattern of the observation hive I have to thank Prof. Cook.

The rocks or boulders at the side of the hives are not put there as an ornament or bee-mark, but they are sometimes needed in this part of the country to pile on top the hives so as to keep them attacht to the world, or not to find them some morning in your neighbor's field mixt up with cornstalks and Russian thistles.

I am very much interested in the different ways bee-keepers introduce queens, and no sooner have I come to a conclusion than I see that manner criticized in another paper. I think this criticizing or debate is the proper way to learn, but it strikes me that some of our more experienced bee-masters do not explain to us very fully why bees reject queens. When a patient consults a doctor he (the doctor) will first examine for the ailment, and then prescribe a remedy. Why not the same with introducing a queen, for when bees reject her it is an ailment, or there is a cause?

I will give my own way of introducing. Scientific men tell us that bees of the same colony know one another by the scent that the queen-bee imparts to them. Taking this as a starting-point, I first destroy this scent when I want to introduce a new queen. When my new queen arrives by mail I give her a little rest by laying the cage (face upward) in an empty hive or box. I now saturate a little sponge with sugar-water scented with a drop of peppermint, which I lay partly on the queen-cage so that the queen and escorts can sip at it, which they soon do, and their breath becomes scented with it.

Towards evening I go to the intended colony, and after treating the bees with smoke I remove their queen. I have a special hive-cover with a hole cut in, the size of the queen-cage, but about 1 inch longer. In this hole I lay the caged queen (face downward), and shove it forward so that the bees in the hive can not reach the candy plug.

I now cover that hole in the cover with about two thicknesses of burlap, which provides a little ventilation. Next I take a piece of lath and pour some peppermint extract on it, after which I stick it poker-fashion in the entrance of the hive. The next day when all becomes normal around the hive, I raise that burlap over the cage a little, and shove the queen-cage backward so that the bees can eat out the candy plugs and liberate the queen, and all is done.

Maybe our esteemed Dr. Miller will say that while the colony is thus strongly scented with peppermint the bees will not be able to distinguish robber-bees if such would make an attack. This may be so, but as yet I have not been troubled with it at that time, and as it is done later in the day most of the peppermint scent is fanned out of the hive by the next day.

A thing happened to me last summer which may be worth mentioning. I thought I had a case of robbing, and as I just then got my bee-paper, I saw where some one askt the question as to his bees fighting. Dr. Miller answered the question by stating it as paralysis, and it fitted my case also; and as the Doctor said that there was hardly a cure for it, it set my "thinker" going, and I thought of something to save a nice queen. As Webster describes "paralysis" as an involuntary motion of muscles, I concluded that if I could counteract this involuntary action it would be a case of cure or kill. At night I gave that colony smoke and whiskey, and two days later there was much less fighting at the entrance, but whether it was cured or killed I am unable to say. I think it was only the hardy ones that survived, and when I opened the hive I found that hardly enough bees were left to cover the brood. On another day I had a real case of robbing, which was done by a stronger colony next to it. When I noticed what was going on I smoked both the strong and the weak colonies. I then took the best comb with bees and all from the strong colony and gave it to the weaker ones. Judging that the new comers were the strongest and fearing they might harm the queen, I scented again with peppermint; and closed up the hive, leaving the few field bees to take care of themselves. After night I also closed up the hive of the stronger colony, and gave both new stands, disfiguring the old stands as much as I could. The next morning I liberated the weaker colony first, and watcht if any of the added bees would find their old hive again, but they did not. Soon afterward I liberated the stronger ones also, and after an hour's confusion they went to work as before. But what surprised me most, was, I noticed no more fighting of the weaker colony, and by noon they were working in harmony, carrying out dead brood and cleaning house.

My bees are in chaff hives, and on the summer stands; they had a good flight on Dec. 23, and that weak colony seemed to have bees enough to cast a swarm.

L. H. CREMERS.

Dec. 26, 1900.

Mr. L. H. Cremers and his Apiary, of Davison Co., South Dakota.

A Fair Italian—After "Black Beauty."

BY HENRY BIDWELL.

I am a yellow honey-bee of the feminine gender. My occupation is to secrete wax and build it into combs; to gather honey and pollen from the groves and fields with which to feed the maturing brood or to partly digest and give to the mother-bee for the rapid formation of eggs. The rule that governs the actions of my life is that whatever I find to do I delay not in doing. My mother is called a queen, but from her numerous progeny would more appropriately be styled a "mother-bee." My father is called a drone, but since he has no sac to gather honey in, no basket to carry bread in, and no stinger with which to defend the hive, he should be called the "gentleman-bee."

Mother and I, and 15 of my sister workers, came from Genoa, Italy, in a small box by mail. We had a quiet trip across the water, but were badly shaken up in transfer at New York City, then rolled across the country to our present home where we revel in the immense fields of alfalfa bloom, which we prefer to the fragrant groves and sweet-scented vineyards of our native land. This is the home of the industrious bee; here we enjoy the right to swarm when we wish to, as Nature intended we should. To swarm naturally is the greatest happiness that comes to us—God's way is better than man's way, at least, for our increase. In Italy we no sooner thought of swarming than our mother was removed and we were compelled to replace her from worker-larvæ which are confined in small cells and fed coarse food; thus our step-mother came to us with her size reduced, her color darkened, the number of her ova diminisht, and her vitality largely destroyed. Again, the German bee was imported and mixt with our race; this deteriorated our stock, left the brown stripes on our abdomens and inferior blood in our veins. But in America it was discovered that our race was variable, and by careful selection the brown stripes are being bred away.

It was a beautiful March day when we arrived at our present home. The bees, whose apiary we were to share, were returning laden with pollen from the maples. The box in which we were imported was placed in a strong colony of brown bees from which the mother-bee had been removed. Immediately our box was surrounded by the queenless bees that vainly tried to liberate us, and which in a measure consoled us by extending their tongues laden with liquid sweets thru the meshes of our prison doors. We gladly accepted the food offered us, but were even more glad the following day when releast. Mother found many empty berths, recently vacated by baby bees, and at once began to deposit an egg in each cell, including a number of the drone-cells. In three weeks her brood began to hatch, and in four more she began to lay eggs in the queen-cells we had prepared for her.

We swarmed on the last day of May, just as the workmen were going in to dinner after having mowed the alfalfa. We made the air quiver and hum as we flew in circles that grew larger until we were nearly all out, the yellow and brown bees mingling joyously; then the queen settled on a maple limb where we all clustered, bending the limb almost to the ground. We waited patiently for some one to hive us, but getting tired, sent out scouts in search of a suitable place to live. Soon one returned saying she had found an empty barrel; another saying she had found an open space between the siding and plastering of a house; another reported having found a hollow tree, and still another a small stone house which had never been occupied, for the padlock was sealed with rust. This seemed the most suitable, for our number was tens of thousands and we all wanted room to work. So away we flew, led by the scout, to the little stone building on a vacant lot near the center of town. We entered thru a crack over the door and immediately went to work. A few mud-wasps and spiders had been in possession of the house (which, by the way, was the calaboose) each year since it was built, but on account of there being no saloon in town it had remained vacant and we were left undisturbed.

In the course of a month we had built ten combs the size and shape of a bushel basket, suspended from the ceiling down into the center of the room. But on the night of July 4th the door was opened with difficulty, and a tramp was thrust in. He lay in a heap on the floor until towards morning when he got up and began to swagger and swear; striking out in the dark with clencht fist he knockt down our combs, scattering us all over the floor. Amid the yells of murder and fire we ran in every direction until we reacht the sides of the room; then we climbed to the ceiling again where we clustered. As soon as the light was sufficient we flew back and lit on a limb near our old home, which we found had been divided into ten parts—just the number of combs we had left in the hive. Each part had been placed in a separate hive and given one of the sealed queens which now were mother-bees. Looking about, we found an empty hive which we took possession of; and before winter we had it full of combs, honey, bee-bread and maturing brood.

Sedgwick Co., Kan.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Transferring Crooked Brood-Combs.

I have six colonies of bees in the cellar. They are in frame hives without the frames, except three, but the comb is so crooked that I can not get them out or do anything with them. Will it pay to transfer them on frames of foundation? IOWA.

ANSWER.—Wait till they swarm; hive the swarm on the old stand, setting the mother colony beside it. A week later move the old hive to a new place, and 21 days after the time of swarming drum out all the bees and add them to the swarm. Then you will have the old hive free from all brood unless it be some drone-brood, and you can do what you like with the combs. The swarm having an extra force of bees ought to give you a lot of surplus honey, if there is any to be had.

Methods of Securing Increase.

1. I wish to get my increase the next season. My plan is this: In early swarming-time I think of taking the colony I wish to breed from, and take two frames with bees brood and queen, fill both up with empty frames with starters. Put the hive with the queen on the old stand; when the other has reared queen-cells within a couple of days of hatching, I divide as many more as I have spare queen-cells in the same way, placing the queens on the old stand and removing the queenless ones to a new place and give them a queen-cell. Will that plan work well? Will the bees destroy the queen-cells? Would I better give them the cell at once or wait a couple of days? If you think this plan will not work well, will you please give me a better one?

2. I have some extracted honey which fermented and then candied. Will it do to feed to bees in the spring if I liquefy it?

3. Since writing the above I have been reading an article by Mr. Doolittle in the American Bee Journal; he is good authority, and he advises against giving a queen after dividing, giving as a reason that it will bring on a crop of workers too late for the basswood and prepare the way for another swarm. His reasons seem good.

Please give me what you consider the best system of dividing. I wish as little increase as possible.

IOWA.

ANSWERS.—1. Instead of putting the queen with two combs on the old stand, and the queenless colony on a new stand, why not leave the queenless bees on the old stand and put the queen with her two combs on a new stand? The queenless bees will then be in a more flourishing condition to rear good queens, because strong in bees and getting a good harvest, whereas by the way you propose they would be weak in bees and gathering no honey. Then when it came time to use the queen-cells you could return the queen to the old stand. The bees will be likely to destroy the queen-cells unless conscious of their queenlessness. It would be a good plan for you to take the queen from the colonies you intend to use for nuclei two days before, then when you put them in a new place as nuclei they will stay better where they are put, and the queen-cells can be given to them at the same time. But remember that when you make a colony queenless not all the cells will be good.

Some of the last reared will be very poor. Better give each nucleus two, three, or four cells, and there will be a better chance that there will be at least one good one in the lot. You can also judge something by the looks of the cells, the large, well-pitted ones being preferred, altho sometimes an inconspicuous cell may contain a fine queen.

2. It will do very well. In spring, when bees are flying daily, it is safe to feed almost anything that bees will take. Possibly sweetened vinegar would do no harm.

3. Mr. Doolittle is a man of excellent judgment and a safe adviser. If your conditions are the same as his, you will do well to follow his example. If he lived where I do, I doubt that he would advise all to follow his example.

The Honey-Extractor and Foul Brood.

1. Does the extractor cause foul brood?

2. If so, in what way?

All the bee-keepers in this county (Davis), and a great number in Salt Lake County, will not use the extractor, claiming it does cause foul brood. UTAH.

ANSWER.—If there are no thistles growing on your place, there are two ways in which they may be introduced there—the seeds may be taken there, or the plants may. Without either plants or seeds there is no possibility of having the thistles. Foul brood in a colony is much like thistles on a farm. If there is no foul brood in a colony, it can only be introduced there by the introduction of a certain plant or its seed. The little plant is called *bacillus alvei*, and a *spore* is its seed. Please get that clearly in mind—there must be the bacillus or the spore, or there can be no foul brood. The bacilli or the spores may be found in the larvæ, in the cells, or in the honey. Their presence in the honey is the thing most to be guarded against, for it is probable that in the great majority of cases it is thru the honey that the disease is carried.

Now for your question as to whether the extractor causes foul brood. If there is no foul brood in your apiary, how can an extractor cause it? The extractor can produce neither spore nor bacillus. If, however, there is foul brood in one of your colonies the case is a little different. You use the extractor to extract the honey of that colony, and that honey may be infected. You put a comb from the infected hive into a sound colony, and you have another case of foul brood. You put out the combs of the infected colony for the bees to clear up after they have been extracted, and there is a chance for every colony in the apiary to get the disease. If you feed some of the extracted honey for any purpose (and the chances are that you are more likely to feed extracted honey than comb), there is a fair chance that any colony thus fed will become diseased.

You will probably see now that the answer should be: There is no possibility that the extractor can produce foul brood where there is none; but if there is a diseased colony in the apiary it is quite possible that bad management in connection with the use of an extractor may greatly accelerate the spread of the disease.

Dead Bees Outside the Hive—Colony Destroyed by Moth.

1. Why is it that after a warm spell followed by cold, that a great number of bees are found dead outside of the hive?

2. Is it safe to use a hive after all the bees in it have been killed by the bee-moth? I caught three swarms myself, one of which was afterward destroyed by the moth. NEW YORK.

ANSWERS.—1. I should expect it to be the other way: after a cold spell when many bees have died, the advent of a warm spell allows the bees to carry out their dead.

2. The hive will not be injured in any way, and it will be perfectly safe to use it again. If you mean to ask whether it is safe to use the combs, the reply is that it will be all right to use them unless they are so badly destroyed that most of the septum or middle wall is gone.

I don't know whether you mean literally that the bee-moth killed your bees, but as it is a rather common belief among beginners that bee-moths may attack a good colony of bees and overcome it, it may be well to say a few words about it. No bee-moth ever came off first best in a hand-to-hand struggle with a worker-bee. If you watch closely, you may see a moth toward evening trying to enter a hive, and if a bee gets after it there is no attempt at fight. The moth runs, and if the bees get hold of it it has no means to defend itself, let alone trying to kill the bee. The moth tries to get into the hive to lay eggs, and laying eggs is all the harm it does, altho that is harm enough. If bee-moths are plenty, you will probably find their eggs in or about the hives of your strongest colonies. When these eggs hatch out into larvæ, the larvæ or wax-worms make a business of eating the combs, and that's where the mischief comes in.

When these wax-worms are allowed full play, it will not be so very long a time in hot weather until the whole contents of the hive will be a mass of webs and cocoons, hardly anything in the semblance of a comb being left. But in the majority of cases it is no more right to say that the moths or the worms destroyed the colony than it is to say that maggots destroyed a horse that one finds filled with maggots, the horse having been shot some time before. The colony has in some way come to naught, and then the worms come in to make a finish of the combs, just as the maggots come in to make a finish of the horse.

Altho there may be eggs of the moth in the best colony you have, yet they do no more damage than the weed seeds that are found in your best cultivated ground. You keep the young weeds killed down before they get big enough to do any harm, and in the same way the bees keep the young worms rooted out before they get big enough to amount to anything. A strong colony will have no trouble in keeping the worms cleaned out, and even a weak colony will be all right if the bees are Italians.

Combs that have been out all winter so as to be frozen are safe until the weather becomes warm enough for fresh eggs to be laid in them. But if a colony dies in a hive, the combs will be ruined as soon as warm weather approaches. Put such combs under a strong colony of bees, and the bees will take care of them safely.

Sowing Cleome and Buckwheat.

When is the proper time to sow cleome seed?

When would be the time to sow buckwheat to have it bloom the first of July? WEST VIRGINIA.

ANSWER.—I don't know the answer to either of your questions, but I'll make a guess at them, and if I'm wrong some good friend will correct. Sow cleome as soon as frost is out and the ground fairly settled. To have buckwheat bloom the first of July, sow the first of May.

When to Put Bees Out of the Cellar.

When ought I to take my bees out of the cellar, in this section of the country? And should they be put in the same position and place as last year? ILLINOIS.

ANSWER.—You will not be far wrong to go by the blooming of the red or soft maple. When they come out in bloom, it is time for the bees to be out. Sometimes, however, the weather will be so cold and wet that it is better to delay a little if the bees are in good condition. On the other hand, if the bees are very uneasy, and are spotting their hives, it may be better to get them out the first favorable day. It is important to have a fine day for bringing out. After their long confinement they are anxious to get out of the hive, and if brought out on a bad day thousands of them will fly out, become chilled, and perish. After lying idle for months they can not be expected to fly with the greatest vigor, and a strong wind will beat them to the ground never to rise again. Bring them out on a still day, with the sun shining, and the thermometer at 50 degrees or more.

Having some years put my bees on the stands they occupied the preceding year, and other years having set them around promiscuously, I do not see that it makes any difference. Possibly in places where they are kept in the cellar a month or so, it might make a difference.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

The Afterthought.

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

THAT MAGNIFIED QUEEN PHOTOGRAPH.

I am inclined to get enthusiastic over that magnified photograph of queen and egg on the front of No. 9. Between "approximately correct" and "correct" is a long and important step. One of the great, grand things that we want of the twentieth century is to take away our approximations and give us some reals. For instance, let it take away our good novels, which are approximations, and a lot of our biographies, which are not so much as approximations, and give us some real views of other lives than our own. Well, here at last we have a real look at the queen on paper, can see the gloss on her back, and the fur on her shoulders, the exact shape of her foot, and the style of her "horns" (*a la* Utter); can see that the true taper of her abdomen does not look like a wooden plug whittled out; can see the three little eyes on the top of her head, sticking up like crab's eyes, and ready (if they do utilize X rays) to locate just where the last egg on the other side of the comb was put.

SINGLE-BOARD COVERS, WIDE FRAMES, ETC.

I agree with Mr. Greiner that the single-board cover is not an improvement on the old telescope roof. Also I like the old wide frames for putting on sections. As to the old honey-board, I'll let some other fellow agree with him about that—doubtless "other fellow" will not be very hard to find. Page 89.

A LESSON ON THE LAMP-STOVE.

Friend Roe,
You ought to know
30's too low
For bees to go.

If you had known all that "with your heart," and had properly meditated on it last fall, perchance the treacherous lamp-stove would not have been invited to do its worst. Now sit at my feet while I shake my finger and tell you. Lamp-stoves are treacherous, even if you don't cover them up. Never should be left alone long. Liable to char their own wicks, and get up such a state of things internally as will set up an impromptu lamp-black factory—if not worse. Been there. Don't want anything worse. Interesting to see that the bees, even tho aching for a temptation to fly at something were "controlled" by the smoke and kept in their hives. O smoke, thou art a daisy! Some angel (sister to the one that gave the moss-rose its moss) surely gave thee thy bee-controlling powers. Page 89.

ALTERNATION OF RAINFALL IN CALIFORNIA.

Ten years of California rainfall shows up as a regular alternation of first scant and then plentiful, except that 1899, which should have been plentiful, was instead the most scanty of all—as if some cause, not connected with the law of alternation, had knockt it completely out. Page 90.

A CHIDER CHIDED A LITTLE.

Mr. Carlzen, page 91, chides Dr. Miller for not being explicit enough, and then proceeds to sin much more deeply and darkly himself. (No wonder we do just so after scolding.) The specific gravity of 20 is just that of quicksilver—and can not be his meaning. We would grasp at the theory that 20 is merely a slip for 20 hundredths, but that would be lighter than any fluid we have to do with. Perchance it's the arbitrary numbering of the scale on some little instrument he has; but how are we to know that unless he tells us?

SWARMING ECCENTRICITIES.

The eccentricities related by Edward Knoll, page 92, seem to me to be instructive. Bees without a queen do not swarm, but a swarm left without a queen comes back soon. Here having gotten themselves partly on the end and partly on the roof of their home, they played that home hadn't any queen, and kept up the delusion for more than a week. Were not ready yet to give it up when the second swarm issued, but "saw the point" when the third swarm appeared. I surmise the old queen came out when she did because the bees had recently been worrying her—for them to kill her would be rather the normal course, I think.

PERHAPS THE FRENCHMAN WAS RIGHT.

Mr. Dadant, may it not be that that French manager was partly right? I mean about the non-advisability of working second-hand wood with power. Even here when a railroad wants old ties sawed up men do it by hand with big saws. Too many gravel-stones that have workt into cracks for buzz-saw work. Feeding a power saw allows too little time to "watch out;" and it can not be stopt when it strikes a stone. Page 100.

MAKING A COLONY SWARM.

Well done, Mr. Bevins! A practical way to make a colony swarm at will is one of the most urgent of our lesser wants, and you seem to have given us a good starter towards it. Booming colony—tall hive—queen in the attic—zinc to keep her there—then put her below just before the first princess emerges. There might be some failures, however. A phlegmatic colony might refuse to build cells below; and an irascible colony might kill the old queen when she appeared downstairs, and only save one princess. Page 101.

KEEPING EXTRACTED HONEY.

Dr. Mason was a little "off" on page 102 when he said it had never been tried how long extracted honey would keep. I've tried it a number of times when it didn't keep thru the first summer. How long the *best*, and most thoroly ripened, select honey will keep is perhaps a little problematical yet. And his contribution 15 years in an open package, and good yet—is on the road toward finding out. As a general doctrine I should say that honey not sealed up depreciates *some* every summer it goes thru. Some innocent trader will get badly bitten by trying to hold too long a dozen barrels of honey—if he listens to our boys singing the imperishability of honey, as they are so fond of doing.

THE HATCH EXPERIMENT.

And, ye experimenting folks, don't forget the Hatch experiment when putting on supers this spring—filling all the mid brood-chamber with sealed brood, and having plenty of young larvæ in the outside frames. For locations with only one harvest, and that not very long, I shouldn't wonder if this might prove valuable. Worth something to start the storing in the outside sections, right over the young brood. Page 103.

BUMBLE-BEE DRONES WORKING.

Mr. Wallace, perhaps it is not very great merit in the bumble-bee drones that they work to the extent of getting their own food from the flowers. May be a simple case of "root hog or die"—no honey at home at all. It's true, however, that our hive-drones would promptly accept the "die" rather than the "root hog." Page 108.

UNCAPPING HONEY FOR EXTRACTING.

I am not an expert handler of the uncapping-knife—good ways from it, I fear—and therefore the photograph of an expert at his work has special value to me (and perhaps to all my numerous family.) I am talking now about the photographs of Mr. Aikin on pages 117 and 118. He does not lean his comb over to the right as much as I do. He cuts the first stroke on the near end of the comb. Had I been in his shoes, and commanded to begin on one end, I should probably have cut the first stroke on the far end—working the heel of the knife continually into fresh territory in preference to the point—except of course when the surface is so uneven that the point has to be used. Awhile ago I used to take off a little strip pretty much all around the comb first thing; but I have pretty much abandoned that as a greenhorn's unprofitable fussing. Had I been in Mr. Aikin's shoes and told to uncap that comb just as I pleased, I should probably have set it on one corner, leaned it over strongly to the right, placed the middle of the blade under the bottom corner, and made the first stroke from that corner to the opposite or upper one. Then the rest of the territory I should have finisht in a "permiscus" kind of way. Presumably, Mr. Aikin's way should be the better—but I should greatly enjoy hearing other brethren tell just how they would attack a comb—or, if they pleased, just how they would go at that particular comb which Mr. Aikin has in his hands.

Queenie Jeanette is the title of a pretty song in sheet-music size, written by J. C. Wallenmeyer, a musical beet keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once, if you want a copy of this song.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

INFLUENCE OF THE GOOD HOME.

The home is the greatest civilizer. A nation of good homes must be strong. Nothing will foster patriotism like the presence of innumerable homes where the beautiful is ever in evidence and where love is law. Anything that makes the home more beautiful, or anything that adds to its delights, not only makes good people—good fathers, mothers, children, good neighbors—but just as truly, good citizens. The man whose home is all in all to him, who longs for it when absent, and hies himself to it when business lets go her gripe, who is only away from it when stern duty calls, who rejoices in it from cellar to roof—such an one feels that he has great things to live for. He can accomplish great things, for he ever has a heart light with joy, he ever has wondrous incentive to work—thought of the loved ones that make that home so precious; his daily tasks are only pleasures. Such are the ministries of the true home. Such a man must be a patriot—he has that which is all priceless to defend.

The happiest homes, are where all work together to secure comfort—where all give thoughtful love and rejoice most in what brings joy and good fellowship to all. It is not the home of wealth, where money unearned, brings every luxury, and gratification in fullest measure comes without effort, that knows the truest happiness. Such homes breed selfishness, and selfishness and happiness never travel together. I would never covet wealth for my children or friends. I would covet the most generous, the noblest manhood. Such a state is not born of wealth. The man of wealth may hold onto generous purpose, unselfish regard, disinterested love, but his money is ever working to smother all these blessed instincts. Strong indeed is the man who can maintain his best integrity, and preserve ever alive within him the highest ideals of life, thought and purpose, if wealth has ever waited at his call and responded to his beck. Not the home of wealth, then, but the home where industry and frugality supply moderate needs, where daily thought and effort must minister to the daily wants, is where joy is sweetest and best, and such homes are what will surely give to a nation perpetuity.

May we not rejoice then that our nation is blest with such homes? Their influence is true and sweet. God bless every action and effort that fosters such homes. May God raise his hand against efforts that tend unduly and unrighteously to build up either the homes of squalor, or the homes of the overwealthy.

Our American Bee Journal home circles are the average ones. In them all minister. All are ready to give the helping hand. All are alert to add a sheaf to the store of comforts. Thoughtful love for other than self. All this is what makes gladsome the home.

In our homes, we love to read. The good book and the helpful magazine are the pride and pleasure of the household. The reading aloud, and the good talks called forth, as "Wild Animals That I Have Known," takes us into the fascinating fields of nature, are too precious and valuable to be at all curtailed. How can we gain time for more? So *very important* is the answer, that we may well share no time or pains to make all about the house convenient. Labor-saving machines, no more than convenience of plan and arrangement, should receive fullest heed and attention. In all this, as it is the workshop of the queen of the household—the loving wife who gives the sunlight to the home—a first place should be given to

THE KITCHEN.

The kitchen round of duties are every day, and many are oft repeated in each daytime. Steps that must be often taken should be short and few. Is the kitchen the cheerful room, where sunlight and pure air ever keep company? Are the walls cheerful? and does an atmosphere of cheer and comfort make the kitchen a glad room?

Any pains to make the kitchen bright and attractive are well and worthily bestowed. Is the kitchen next to the dining-room, with double wall between, enclosing an ample cupboard, with convenient sliding or other doors that open both ways? Doors that slide either up or sidewise are most convenient.

Is the sink close beside this cupboard on the kitchen side? And has it an ample drain board, and both hot and cold water that comes with a turn of a faucet? Suppose it does cost not a little, to secure all this. It is to help every day and oft-repeatedly, the dearest member of the household.

Is the range convenient to sink and table? and has it a hot water tank? And does a first-class quick-meal gasoline stove take its place in the hot weather? Is a neat wood-box close by the stove, and is it ever full of the best of fuel?

Is the arrangement of the cooking table to flour-bin and sugar-box, etc., so that all possible steps are avoided? Is there a long, narrow spice cupboard above the cooking table, with front door to open downward, that no steps shall be required to reach everything that is needed to make the food appetizing?

Is the pantry close at hand, and always stockt with all needed articles?

No husband can afford not to give all this most earnest heed. To save the time, the steps, the energy of the wife and mother, is his greatest privilege and his wisest and most blessed act. In building a house the most thought and study should be given to the kitchen, that it may be a model of neatness, beauty and convenience. If the house is already built, labor and money spent in remodeling this room so that steps may be saved, and care, worry and labor lessened, will be most wisely used.

THE BATHTUB.

That wonderful man, Booker T. Washington, in the intensely interesting and inspiring articles just completed in The Outlook, and which it is hoped will be published in book form, speaks of the bathtub, as a mighty civilizer. He is right. No house should be without the most convenient and best arranged bathing arrangements. Indeed, "*Cleanliness is next to Godliness.*" The bathtub—oft used—is the good angel of the home. We are wisest when we do everything to encourage to very frequent bathing. We must have the convenient bathroom, with hot water. Not to build this if it is wanting, is to stand in the very light of the home. The hot-water tank heated every time the stove is lighted, gives hot water at the kitchen sink and to the bathroom.

I would work my finger-nails short, if needs be, to have the best and most convenient kitchen and bathroom the county round. Have all our readers lived up to their opportunities in these directions? These should not be considered luxuries, but necessities—a thing not for the future, but for the now.

GRAHAM GEMS.

Nothing is more important in the home circle than good health. It is true that "what is one man's meat is another man's poison." White bread is often very untoothsome, and, I may add, unwholesome. To any who, like myself, have found this true, I would suggest as a substitute graham gems or bread. I feel that my health, if not my life, is due to this displacement. The following is the recipe for gems which I have found very appetizing and wholesome:

To two cups of graham flour and one of white, add two teaspoonfuls of good baking-powder, and milk sufficient to make a thick batter. Salt to suit the taste. Add a half cup, more or less, of sugar. If some cream is added with the milk, no harm will be done. Bake quickly in hot buttered gem-irons.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and thus often leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we have been furnishing to bee-keepers for a long time. It has a pin on the underside to fasten to the coat. Price, by mail, 6 cents each; two for 10 cents; or six for 25 cents. Send all orders to the office of the American Bee Journal.

The Chicago Convention Picture is a fine one. It is nearly 8x10 inches in size, mounted on heavy cardboard 10x12 inches. It is, we believe, the largest group of bee-keepers ever taken in one picture. It is sent, postpaid, for 75 cents; or we can send the American Bee Journal one year and the picture—both for $1.00. It would be a nice picture to frame. We have not counted them, but think here are nearly 200 bee-keepers shown.

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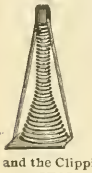

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GENERAL ITEMS

Bees Wintering All Right.

My bees came thru the winter all right, without the loss of a single colony so far, and I look for a good honey-year.

The American Bee Journal reaches me every week, and is a welcome visitor.

RIX L. HASKITT.

Tipton Co., Ind., March 9.

Encouraging Outlook for Southern California.

Southern California has had a good wetting this winter, and it is raining now, with the prospect of a good deal more to come. Farmers and bee-keepers appreciate and welcome the long-prayed-for rain, after the long drouth of three successive years. Nobody here minds going out in the pouring rain and getting wet thru, as did the writer, tho a severe attack of "la grippe" was the consequence of his folly. However, I doctored myself out of it, and am on the way to recovery.

It is rather too early to say much of the approaching season. Vegetation in general is backward, especially in places on as high altitudes as we are. But with the first warm, sunny spring days a good and lasting honey-flow can not fail for those that have the bees to gather the nectar. Of course, the losses during the long drouth have been considerable.

We winter our bees on the summer stands in a sheltered place. As they were strong and had plenty of stores last fall, I hope they will pull thru all right.

The general outlook is very encouraging for the coming season. GUSTAV VOSS.

Riverside Co., Calif., Feb. 9.

More About Bumble-Bees.

On page 108 I notice some remarks of Mr. Thomas Wallace, in regard to the large bee mentioned above. He gives us his age, thinking doubtless that his great age would entitle his belief to have much weight. I, too, was brought up on a farm, and find myself some older than Mr. Wallace, as I was 84 years old Sept. 20, 1900.

Mr. Wallace does not think the bumble-bee winters North. One reason he gives for his belief is that he has "never been able to find a humble-bee's nest in the winter." That he has not found a nest of this bee in winter arises from the fact that of this bee the queen only survives the winter, and they never cluster as the honey-bee does to keep the mass warm. But when the flowers are all killed by frost, the workers—undevelopt queens—and the drones, soon die from the combined effect of cold weather and want of food. At that time, instead of the queens going South, as Mr. Wallace *thinks*, I *know* that, in many instances at least, they remain at the North. They crawl down under a thick cluster of leaves, and remain there until about the time the lilac blooms. And the reason that I am so positive about it is not a matter of belief, but I have repeatedly found the queens, only one in a place, in the early spring when gathering what we boys called "spring beauty," but the botanists early named Claytonia carolineana. The queens, tho, so late in the season, I found deeply buried among the leaves, always at the bottom, directly on the soil; at such times they could walk, but were too much chilled to fly. From my earliest boyhood I was always much interested in bees, and at that early day my father kept no honey-bees, and this led me to study more carefully the bumble-bee.

The last hatch of the season the queen lays eggs that produce only queens and males, but no workers, which are simply undevelopt queens, as are the honey-bee gatherers. At that time there are from 6 to 12 young queens produced, and very few if any more males. The reason why so few males are reared is because the young queen does not meet the drone on the wing as does the queen of the

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honey-bee, but they copulate in the nest where they are hatcht. I have seen more than half a dozen couples so engaged in a single nest at the same time.

The bumble-bee never builds its own nest, but it hunts up a nest that has been previously built by field-mice. I once found the bones and hair of a mouse in the bottom of a nest occupied by the bumble-bee. It is not likely that the queen-bee killed the mouse, as it is probable that it had previously died of old age, or some accident. D. S. HEFFRON.

Cook Co., Ill.

Wintering Bees—Swarms Settling.

My bees are doing fine. I take common dry-goods boxes, having the top and bottom separate, set the hives on the bottoms of the boxes, then set the boxes over the hives, and fill in with chaff, leaving a space in front of the entrance. I have tried this plan for two years, and have not lost a colony. I get the boxes as near 30x20x20 inches as I can, and succeeded in getting two hardware dealers to save me 37 last fall, at 30 cents apiece.

I have seen a great deal in the Bee Journal in regard to bees settling after swarming. I have hunted bees ever since I was old enough, and have kept bees for several years, so I will give some of my experience.

I keep several hives up in the trees every year, and have never failed to catch bees in them. I have seen them work in and out of the hive for 42 days before they came to stay, but never knew them to take possession at once. Three different times I have seen them hang on the front of the hive from 3 to 50 hours. If the bees settle because the queen is tired, she must be *very* tired to hang within 4 inches to a foot of the entrance so long. I have seen them in the woods hanging just below a small hole in a tree, and have gone back in a few days and found them at work.

Last spring a swarm issued from one of my colonies, and started off. I followed them to one of the neighbor's, where they settled on his barn, about 4 feet from the ground. My neighbor went back home with me to get a hive, and as we crost the railroad track we noticed several bees flying around. I found a queen with 17 bees. This was about 40 rods from the cluster. I bought a hive and a queen-cage, put the queen in the cage, and set the hive at one side of the track, and askt my neighbor to watch the cluster, and if they entered the hive he might take them home and keep them. The second day at noon they went into the hive. Next day I went over and liberated the queen for him. They stored 24 pounds of surplus honey, and cast one swarm. Do you suppose they were over on the barn waiting for that queen in the hive to rest? I think that sometimes they have to settle in order to rest the queen, but I have caught the queen in my hand while flying in the air, after more than three-fourths of the bees had clustered. H. GILBERT.

Jasper Co., Iowa, Feb. 4.

Bee-Keeping Experiences.

I paid $3.50 for the first colony of bees I ever bought, and they were in a big box-hive made of oak. Some time afterward I moved a little further west, and workt for a man who kept about 25 colonies. We got the fever to go still further west, so we sold what we could and traded the balance. We sold what honey we had at 18 cents per pound, and could have sold more if we had had it.

During the civil war, while on the field of battle one day, in an old house that was full of bullet-holes, I found a colony of bees, which I gave to the good woman who had done some sewing for me. I have some relics from the old battle-field where the battle of Monmouth was fought, .

After the war I struck out for the West, and landed in Madison, Wis., about the middle of May, 1864. That part of the country was then a wilderness, with very few houses scattered about. I soon found a bee-keeper with two colonies of bees in oak box-hives, and offered him $10 for one. He did not want to sell, and that was all the bees there were in the village. Soon after this I heard of a man 10 miles out in the country who kept bees, so I went to see him, and offered

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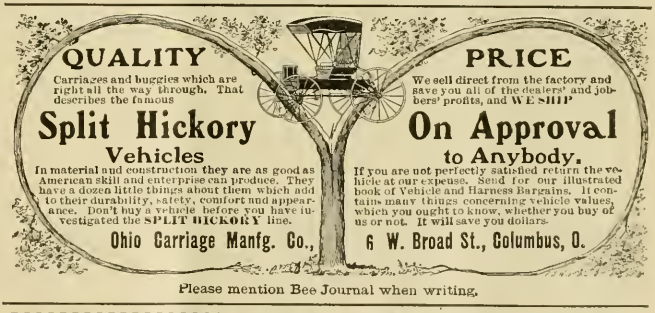
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SENT ON 30 DAYS TRIAL The Hantam hatches every hatchable egg. 50-egg size, $5. Send 4c for Cat. No. 53 Buckeye Incubator Co., Springfield, O. $5

We want *

To sell you BEE-SUPPLIES!

Our line is all new and complete. Send for our Illustrated Catalog; it will convince you that our Dovetail Hive is the best on the market. Our prices are right, and our service is prompt.

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S.W. Cor. Front & Walnut Sts., CINCINNATI, O.
Please mention Bee Journal when writing.

ALBINO QUEENS If you want the most prolific Queens—If you want the gentlest Bees—If you want the best honey-gatherers you ever saw try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.
11A2t J. D. GIVENS, LISBON, TEX.

Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application. BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.
Please mention Bee Journal when writing.

You Can't Afford to Guess

at results in the poultry business. If you fail to raise the chicks, you simply have no business. The way to be absolutely sure about getting the chicks is to employ a Cyphers Incubator to your hatching. We guarantee them to last 10 years and to outhatch any incubator made. The best way to know about it is to read our 224 page (8x11 in.) book, "Profitable Poultry Keeping." Has 250 illustrations and covers the entire subject. We send it for 10 cents in stamps. Ask for book 50. Circulars mailed free. Address nearest office.
CYPHERS INCUBATOR CO. Chicago, Ill., Wayland, N. Y., Boston, Mass.

A START IN LIFE!

Everybody realizes its importance. Don't deny it to your chicks. Hatch 'em right, start 'em right, and they'll pay you back all right. The best way to hatch chicks is with the famous

RELIABLE INCUBATORS AND BROODERS

The machines which have satisfied more particular people than any other machine made. They hatch every fertile egg. All sizes and prices

Our $5 BANTLING SPECIAL, 50-egg size, is the best small incubator ever sold at a low price. But send for our great 20TH CENTURY POULTRY BOOK—it tells all about all our incubators—all about our poultry supplies, and all about the poultry business in general—especially how successful men have made money at it. You won't find a better treatise on poultry anywhere. Only 10c for postage.

Reliable Exhibition Coops
Reliable Pliant Leg Bands
ARE LEADERS.
You will see them at the Paris Exposition in 1900.

RELIABLE INC. & BROODER CO.,
Box B-2 Quincy, Ill.

him $10 for a colony, but he did not want to sell, either. I finally found a swarm hanging on a willow bush, and thus began bee-keeping.

The winter of 1864-65 I had 17 colonies—16 in straw-hives, and one in a box-hive. On the last day of the year (1864) the snow drifted day and night, and it was so cold that a great many people had their ears and noses frozen. My bees were near the house with oil-cloth covering over them. A few days after the storm the sun shone brightly, and I saw no signs of the bees flying about, so I knockt on the hives, but received no answer. To my sorrow I found that they were all dead, so I had plenty of honey and wax to sell to cobblers and tailors the next spring. I then bought about a quart of bees and a hybrid queen for $2.50 from an old friend, and started in again.

I was 80 years old last Christmas, and I go four miles to and from my apiary every day in the summer-time, and occasionally in the winter to find out the temperature of the bee-cellar. I have half of the bees in the cellar, and the rest outdoors. I had to feed some, but I have about 30 colonies that I think will come thru the winter all right, as the weather has been favorable.

The largest swarm of bees I ever saw was working in and out of a tree on Lone Mountain, Calif., 26 years ago.

God bless Dr. Miller; may he live long to be a help to bee-keepers, and if he ever comes my way I should like to have him come to see me.

I have a son in the bee-business. We feel that we must have the American Bee Journal as long as we keep bees. D. D. DANTHER.
Dane Co., Wis.

Prospects Bright for the Coming Season.

I have 30 colonies of bees in winter quarters. This is a clear day, the sun is shining brightly, and the bees are having a flight. They are wintering nicely, and we are expecting a good honey crop the coming season.

The past season was a poor one for honey in this locality; dandelions bloomed until November.

I am glad that the "Old Reliable" did not go up in smoke at the time of the big fire in the building in which it was located. I have been a reader of the American Bee Journal for 3½ years, and as long as I keep bees I expect to take it. IRA B. NYE.
Posey Co., Ind., Feb. 17.

Bee-Keeping in Indian Territory.

I want to ask some questions, as I am alone here, and get all my information thru the American Bee Journal, the "A B C of Bee-Culture," and experience. The most of the "bee-brethren" are up North, and very little is publisht about bees in this part of the country.

I notice that one of our expert bee-keepers has been on a trip to Sebastian Co., Ark. I wish he would kindly give, thru the American Bee Journal, his impressions on bees and the prospects for making a success with an apiary in that county.

We have wild-flowers, cotton-plant, persimmons, black locust, ash, willow, wild fruits, and berries in great abundance, but can one make a success of the bee-business with these plants?

This has been a very warm and open winter, and there has not been more than 48 hours at any one time in which the bees were not flying. I put 50 colonies into winter quarters, and I believe every one of them are alive, altho they must be short of stores, for I understand that they consume a great deal more honey in a warm winter than in a cold one.

Last fall, when taking off supers, I found that only about one-half of the sections were filled. I let the bees clean the partially filled ones, and stored them away in the supers. In going over them now I find quite a lot broken and partially destroyed—or you might say ragged. What would be the best thing to do with them? Shall I cut out all the comb and put in new starters, or will the bees fill out the combs? I had very bad luck last summer in introducing Italian queens, and

those I succeeded in introducing did not do nearly as well as my blacks.

From one large early swarm of blacks I took 252 pounds of comb honey, which I think was doing very well for a new colony. They still had eight full frames for winter stores. From some of the others I got only one super full, and from many of them I got nothing.

I had the worst case of robbing that I ever heard of last season, but I will know better another time.

Quite awhile ago I wrote an account of my great loss by fire, of my entire stock of goods and store-house, twice inside of 15 months. I did not feel able to continue taking the Bee Journal, but after reading about the man that wrote such an unkind letter in regard to stopping his paper, and your very generous answer, I will take his place and continue my subscription, so you will not lose anything, but make a friend of me.

R. N. CRAFTON.

Cherokee Nation, Ind. Ter., Feb. 14.

Hard Winter on Bees.

We have had a hard winter on bees. Mine did not have a flight for two months until March 3d, when it was warm enough for them to fly. I found 8 colonies out of 100 dead. They are wintering on the summer stands.

W. W. TAYLOR.

Ottawa Co., Ohio, March 6.

Fears Losses in Wintering.

There are going to be some bee-losses I fear. It looks as if new colonies in unprotected thin hives were pretty much all dead already.

E. E. HASTY.

Lucas Co., Ohio, March 6.

CONVENTION NOTICE.

Chicago.—The next regular meeting of the Chicago Bee-Keepers' Association will be held Thursday, April 4th, at the Briggs House, Chicago, from 1 p.m. until those present get tired and quit, which is usually 9:30 p.m. A feature of the meetings lately has been for all present to dine at 5:30 in a company. All are urged to be present and help us all have a good, old-fashioned time. HERMAN F. MOORE, Sec.

Utah.—The Utah Bee-Keepers' Association will hold its regular spring meeting April 5th, at 10 o'clock a.m., in the City and County Building at Salt Lake City. All are cordially invited. We expect to get out a treatise or pamphlet, the object of which will be to give the best and quickest method to discover, cure, and prevent disease among the bees, and the best way to protect them from their enemies. It will also contain other matter for the benefit of the industry, including our State law. We will be pleased to receive communications from any of our bee-keepers upon any subject along the lines indicated. Address, Pres. E. S. Lovesy, Salt Lake City, Utah, or J. B. FAGG, Sec. East Mill Creek, Utah.

A Little Wunder Incubator.—The larger incubators are not necessarily the only good ones, and we are glad to call attention to the 50-egg Bantam Incubator made by our advertiser, the Buckeye Incubator Co., of Springfield, Ohio, which is one of the most satisfactory hatchers of its class on the market. The Buckeye people put into this little machine the same care and thoro construction found in their larger sizes. It has made some wonderful records even in the hands of beginners. Moreover, the price at which it is sold is so low no one who has even a small flock of hens need do without an incubator. It is sold on 30 days' free trial, and money will be refunded if purchaser is not entirely satisfied. Lately several improvements have been added to the machine, one of them being a metal lamp instead of a glass lamp. While the glass lamp produced results in every way satisfactory, still the metal lamp is safer and more durable. A novel feature of their larger machines is a separate regulating apparatus for each separate egg-chamber, which not only insures more even temperature when the machine is being run at its full capacity, but admits the use of each chamber independently of the others if so desired. Many other points of advantage are fully shown and described in their catalog. We trust those of our readers who are leaning toward the purchase of an incubator will write the Buckeye people for the catalog, which is a plain, straightforward statement of the business-end of the proposition, and we believe will most favorably impress any one with the desirability of these incubators. In writing please mention having seen their advertisement in the American Bee Journal.

Tennessee Queens!

Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3½ miles apart, and mated to select drones, $1.50 each; untested warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and but few within 5 miles. 2a years' experience. Discount on large orders. Contracts with dealers a specialty. JOHN M. DAVIS,
6A26t Spring Hill, Tenn.

Please mention Bee Journal when writing.

A New Radish.—The John A. Salzer Seed Co., La Crosse, Wis., are the introducers this year of a magnificent new radish—a radish fit for use every day of the year—hence they have named it "Salzer's Everyday Radish." They say it is a radish worthy to grace the table of every king, monarch, president or citizen of the United States and the world. There is nothing quite so rich, so luscious and fine; so tender, and juicy, and sweet, and crisp, as Salzer's Everyday Radish. It is a large red radish, shading into white, peerless in quality and beauty, and is sure to give satisfaction. Not only are the Salzers introducers of new radishes, but they have a long list of vegetables that can not be excelled anywhere. Their catalog is worth $1.00 to any wide-awake farmer and gardeuer, and is mailed to you upon receipt of but 5 cents postage. When writing please mention the American Bee Journal.

PAN AMERICAN EXPOSITION.

Nothing since the World's Fair, at Chicago, in 1893, has elicited the widespread interest that is manifest, all over the world, in the Pan-American Exposition, which is to be held in Buffalo, from May 1 to Nov. 1, 1901.

The purpose of the Exposition is to illustrate the progress of the countries of the Western Hemisphere during a century of wonderful achievements, and to bring together into closer relationship the people composing the many States, Territories and Countries of the three Americas. Acting under proper authority, the President of the United States has invited all the Republics and Colonies of the American Hemisphere to join in commemorating the close of the Nineteenth and beginning of the Twentieth Century, by holding this International Exposition on the Niagara Frontier.

For this important event, the Nickel Plate Road has issued an attractive, descriptive folder-pamphlet, elaborately illustrating the Pan-American Exposition, the buildings and grounds.

The Nickel Plate Road is the short line between Chicago and Buffalo, and affords competent train service from Chicago to Buffalo, New York City, Boston, and all points East, with trains of modern equipment, on which no extra fares are charged; also dining-car service of the highest order. It affords meals in its dining-cars on the individual club plan, ranging in price from 35 cents to $1.00.

Call on any ticket agent for Pan-American folder of the Nickel Plate Road, or address John Y. Calahan, General Agent, 111 Adams St., Chicago.

Parties desiring hotel or rooming accommodations at Buffalo or Niagara Falls, during any period of the Pan-American Exposition, are invited to apply by letter or otherwise to F. J. Moore, General Agent, 291 Main St., Buffalo, N. Y. No. 4—12A3t

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, March 8.—Fancy white comb sells readily at 16 cents, but all other grades are weak at the following range of prices: No. 1, white, 14@15c; fancy amber, 12@13c; fair amber grades, 10@11c; buckwheat, fancy, 10c; off grades, 8@9c. Extracted white ranges from 7@8c; buckwheat, 5½@6c; Southern dark, 5@6c; amber grades, 6½@7½c. Beeswax in demand at 30 cents. R. A. BURNETT & Co.

KANSAS CITY, Feb. 19.—Fancy white comb, 16@16½c; amber, 12@13c; dark, 10c. Extracted, light, 9c; amber, 7½@8½c. Demand fair; receipts light. Beeswax, 22@28c.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

CINCINNATI, March 9.—The demand for comb honey is nearly over, the stock of it also well cleaned up. Fancy white brings yet 16c. Extracted is in fair demand; dark sells for 5½c; better grades bring 6@7½c; fancy white clover from 8½@9c. C. H. W. WEBER.

ALBANY, N. Y., March 12.—Honey market is dull with light demand and very little stock, either comb or extracted. White comb, 15@16c; mixt, 12@14c; buckwheat, 11@12c; mixt, 10@11c. Extracted, white, 7@8c; mixt, 6@6½c; buckwheat, 5@5½c. H. R. WRIGHT.

BUFFALO, Mar. 7.—Fancy, 15@16c; No. 1, 14@15c; No. 2, 11@13c; No. 3, etc., 8@10c. Extracted, 8@9c. Beeswax, 27@28c.

All grades of honey selling fairly well, and looks as if all lots would clean up.

BATTERSON & CO.

BOSTON, March 11.—Fancy No. 1 white in cartons, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. Absolutely no call for dark honey this year. Extracted, white, 8@8½c; light amber, 7½@8c. Beeswax, 27c.

BLAKE, SCOTT & LEE.

NEW YORE, Feb. 19.—Comb honey is being well cleaned up on our market. The demand has lessened to quite an extent, on account, we presume, of the high prices which have been ruling. Fancy white still brings 15@16c in a small way; No. 1 white, 13@14c; amber, 11@12c; buckwheat, 10c. Extracted rather dull and not much doing. California white honey, 7½@8c a pound; light amber, 7c; Southern, from 60 to 70c per gallon; buckwheat, 5@5½c. Beeswax steady at 28c. HILDRETH & SEGELKEN.

DETROIT, Mar. 7.—Fancy white comb, 15@16c; No. 1, 14@15c; dark and amber, 10@13c Extracted, white, 6½@7c; amber and dark, 5@6c. Beeswax, 27@28c. M. H. HUNT & SON.

SAN FRANCISCO, Feb. 6.—White comb 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber, 6¾@7¼c; amber, 5½@6½c. Beeswax, 26@28c.

Considering the light output of honey last spring from California apiaries, present offerings are of tolerably liberal volumes and are mostly of amber grades. The market is slow at the quotations. It is reported on good authority that adulterated and imitation honey is being dealt out in considerable quantity, which accounts in a great measure for the very limited business doing in the pure article.

HONEY MARKET.—We may have a customer within a short distance of you who wants your honey or beeswax. We are in close touch with all the markets; therefore write us regarding your crop, stating quantity, quality and lowest cash price. References—Either Bank here for any business man in this city.

THOS. C. STANLEY & SON, Fairfield, Ill.

—DO YOU WANT A—

High Grade of Italian Queens

OR A CHOICE STRAWBERRY?

Send for descriptive price-list.

D. J. BLOCHER, Pearl City, Ill.

1901—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog.

M. H. HUNT & SON, Bell Branch, Wayne Co., Mich.

Wanted An experienced Apiarist to take charge of 100 colonies of bees in Otero Co., Colorado. Do not apply unless best references as to character and ability can be furnisht. Salary or shares. Address,

DR. W. W. BULETTE, Pueblo, Colo.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

200-Egg Incubator for $12.00

Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.
GEO. H. STAHL, Quincy, Ill.

46A25t Please mention the Bee Journal

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	60c	$1.00	$2.25	$4.00
Sweet Clover (yellow)	$1.50	2.80	6.25	12.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	90c	1.70	3.75	7.00
White Clover	90c	1.70	4.00	7.50
Alfalfa Clover	80c	1.40	3.25	6.00
Japanese Buckwheat	30c	.50	1.00	1.60

Prices subject to market changes.
Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.

Wanted A MAN OF PRACTICAL EXPERIENCE AND ABILITY to care for 150 to 200 colonies of bees. Address,

S. J. DUNNE,
165 S. Forest Ave.,
11Atf RIVER FOREST, COOK CO., ILL.

I ARISE

To say to the readers of the BEE JOURNAL that

DOOLITTLE...

has concluded to sell QUEENS in their season during 1901, at the following prices:

1 Untested Queen	$1.00
3 Untested Queens	2.25
1 Tested Queen	1.25
3 Tested Queens	3.00
1 select tested queen	1.50
3 " " Queens	4.00
Select Tested Queen, last year's rearing	2.50
Extra selected breeding, the very best	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t Borodino, Onondaga Co., N. Y.
Please mention Bee Journal when writing.

24th Year Dadant's Foundation. 24th Year

We guarantee satisfaction. ✲✲

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED-PROCESS SHEETING.

Why does it sell so well? ✲✲

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

LANGSTROTH on the HONEY-BEE—Revised
The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

$200 Red-Clover Queen

Offer No. 35.

On September 1st last we announced that we finally had a red-clover queen fully equal to the one we had years ago. The colony of this queen has given one of the most remarkable showings on red clover of any bees we have ever had. The queen in question is an imported one, and therefore of the genuine pure leather-colored Italian stock. We sent out daughters from her all the season. But we did not discover her value until the clover season, second growth, came on, and then her colony so out-distanced all the other 450 that she attracted attention at once.

It must be understood that these queens are not golden yellow, neither are their bees of the five-banded stock. They are simply leather-colored Italians whose mother came direct from Italy.

Since the notice appeared regarding this queen we have hardly been able to supply all of the queens that were wanted from this stock. Many daughters of this queen we sent out before we knew her value, and it now transpires that some of the finest bees in the land are from queens we sent out early. We are now booking orders for the coming season, and make the following offer, but no queens will be furnisht except those that subscribe for Gleanings, and only one with each year's subscription. All arrearages must be paid to the end of this year. Gleanings for 1901 and one untested red-clover queen, $2.00; Gleanings one year and a tested red-clover queen, $4.00; a select tested red-clover queen and Gleanings one year for $6.00. We will begin mailing these queens in June, 1901. Orders are already entered, and the same will be filled in rotation. Do not neglect to improve this opportunity and get some choice stock, and send your order early so you may get the queen correspondingly early in the season. We are using every precaution to winter this queen safely, but reserve the right in case of her loss this winter to substitute from other select tested stock of this strain which we are holding in reserve, or to give the subscriber the benefit of any of our other clubbing offers if desired.

THE A. I. ROOT CO., Medina, Ohio.

GEORGE W. YORK & CO. 144 & 146 Erie Street, CHICAGO, ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., MARCH 28, 1901.

FORTY-FIRST YEAR
No. 13.

WEEKLY

REV. J. D. GEHRING.
(See page 199.)

THE AMERICAN BEE JOURNAL

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The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec01" on your label shows that it is paid to the end of December, 1901.

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Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey commissionmen.

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—BY—

PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

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This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

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Long-Tongued Bees

ARE DEMANDED NOW.

ONE Untested Italian Queen FREE as a Premium for sending us TWO new subscribers to the American Bee Journal for one year (with $2); or, one Tested Queen free as a premium for sending us FOUR new subscribers (with $4.00.)

We have arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us the coming season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

Orders for these fine, "long-reach" queens will be filled in rotation—"first come, first served"—beginning about June 10th. It is expected that orders can be filled quite promptly, as a large number of nuclei will be run. All queens will be guaranteed to arrive in good condition, and all will be clipt, unless otherwise ordered.

CASH PRICES of these fine queens will be as follows: Untested, $1.00 each; Tested, $2.00 each. Send all orders to

GEORGE W. YORK & CO
144 & 146 Erie St., CHICAGO, ILL.

28 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 28 cents a pound—CASH—for best yellow, upon its receipt, or 30 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., CHICAGO.

Best White Alfalfa or Basswood Extracted Honey

ALL IN 60-POUND TIN CANS.

ALFALFA HONEY.....

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.

BASSWOOD HONEY.....

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms in Wisconsin. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

A sample of either, by mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. The cans are boxt.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

Address,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

AMERICAN BEE JOURNAL

Establisht in 1861 — The Oldest Bee-Paper in America

41st YEAR. CHICAGO, ILL., MARCH 28, 1901. No. 13.

Editorial Comments.

Prof. Cook's Review of the "A B C."—When publishing Prof. Cook's first article of the review of the "A B C of Bee-Culture," we should have stated that his criticisms referred to the edition of 1899-1900, and not to the latest, or 1901 edition. As the criticisms read, one would naturally infer that they relate to the new edition, and not to the previous one. With perhaps two exceptions, all the matter which Prof. Cook criticised in his first article has either been stricken out or materially modified in statement. Only about half of the edition of 1899 could be revised, owing to the limited time at the disposal of the revisers, but when the latest edition (the one for 1901) was under consideration, that matter which had not been changed was either rewritten or revised. So, as it happened, Prof. Cook is calling attention to certain errors and other points that needed modification, but which are not in the *book now offered for sale*. This is well, as only a very few, comparatively, have a copy of the 1901 edition, the great majority having former editions, which contain the criticised matter.

Prof. Cook quotes E. R. Root as saying that "digestion is the separation of the nutrient part of the food from the non-nutrient, and the conversion of the nutrient into a liquid fit to mingle with the blood." This is not Mr. Root's statement, but a direct quotation from Mr. Thos. Wm. Cowan, and, with all deference to Prof. Cook, Mr. Root writes us that he should not know whether to accept Mr. Cowan's or Prof. Cook's definition even yet. When doctors disagree, who shall decide?

Regarding the statement of the poor quality of honey from apple-blossoms, so much proof was furnisht Mr. Root to the effect that such honey was of the very finest quality in color, body, and flavor, that the 1901 edition contains a statement praising that kind of honey in the highest terms.

Regarding the other points referred to in Prof. Cook's review of the "A B C of Bee-Culture," the 1901 edition either does not contain the statements which are called in question, or else said statements are modified to conform to the knowledge of the present time.

Mr. Root has sent Prof. Cook a new book bearing the date of 1901, in which he will see that his suggestions and corrections have been generally adopted; for, be it said, a copy of the 1899 edition was sent to Prof. Cook, requesting him to point out its errors or its misleading statements, which he did.

Bee-Keeping for Women.—When the statement is made that bee-keeping is just the thing for invalids and women, a quiet smile is likely to be seen on the face of the bee-keeper who works hard at his business from "dawn to dewy eve," and who lies down at night more worn out than the average farmer. He knows that bee-keeping takes work—hard work—and a lot of it. He knows that he is no invalid, and yet the business requires all the strength he has. As a matter of fact, when bee-keeping is spoken of as a business into which invalids and women can enter and rapidly make a fortune, the realm of nonsense is entered.

And yet, taken in the right sense, it is not so far out of the way to say that bee-keeping is just the thing for an invalid woman. Not perhaps for every one, but for every one who has taste and adaptability in that direction. Indeed, there are not wanting those who testify that with poor health and too little strength for almost any physical exertion, when the time comes for the merry hum of the bees in the spring, they can go to work at their pets, using up their strength to its limit every day, but every day finding that strength on the increase.

There are two reasons for this. One is that they are kept out in the open air, that of itself being enough to make a vast difference in most cases. The other reason is the intense interest that bee-keeping begets. Many a bee-keeper will readily recall the time when he had not more than five or six colonies, and when at the close of a hard day's work in some other direction he has workt an hour at his bees, and when everything was done that he could find any reasonable excuse for doing, he would reluctantly stop, with regret that there was nothing more to do. If the occupation had been almost anything else, he would have found himself so tired that he would have been glad to have shortened up the task.

The woman who enters bee-keeping with no knowledge of the business, and with no love for it, but only with the thought that she may make a fortune at it, will be badly worsted in the outcome; but if she has some taste in that direction, and goes at the matter reasonably and intelligently, she may find a delightful recreation, and with gradual increase of colonies she may add to her pin money a sum not to be despised.

The attention needed by the bees can be given at a convenient time so as not to interfere with other duties, supposing that the number of colonies is not large, and when the number becomes sufficiently large, help at other duties can be obtained. In any case, it will not be hard to get help from "the lords of creation" in any part of the work that requires much physical strength.

Mrs. Axtell's article on this subject in this week's number will be read with interest, particularly by the women of the bee-keeper's family.

Immune to Bee-Poison.—One of the German bee-papers reports that "Dr. J. Langer investigated 164 bee-keepers, and found 11 of them immune to bee-poison from the start; 126 became immune after a time; and 27 remained as sensitive as ever. Some lost their immunity, and sometimes suddenly thru sickness." So says a Stray Straw in Gleanings in Bee-Culture.

Editor Root says that he has never yet met a person who is immune to bee-poison from the start—that is, one on whom there would be no swelling at the first sting. Of course, there are persons who never can keep bees, owing to the fearful effect of the poison caused from stinging. The result of the investigation made by Dr. Langer shows quite conclusively that after a time the great majority become almost completely immune to bee-poison.

When we first began to keep bees we suffered greatly from the effect of the bee-poison. We remember very distinctly being stung above the eye, on one occasion, and the next morning we could scarcely see anything with that eye. After keeping bees a few years, and being stung more or less, we noticed that the pain became less after stinging, and that there was scarcely any swelling at all. Now, when being stung, we scarcely realize it half an hour afterward, unless it is a very severe case.

"Practical Lessons for Beginners in Bee-Culture," by Rev. J. D. Gehring, of Douglas Co., Kans., are begun in this number. There will be several of the lessons, forming a series, which we trust will be read with interest and profit, especially by those who are inexperienced, and have so many kinks to learn in connection with bees and bee-keeping.

It may be true that "anybody can keep bees," but it is certainly true that anybody can not keep them profitably or successfully without making a careful study of the business. While everything can not be told in the bee books or papers, yet there is very much that can

and must be learned by reading. We all learn by picking up an idea here and a thought there. Then in the aggregate there is quite a good deal of practical value gathered together. It is much like the bee when getting the nectar which it transforms into honey—a drop here and a drop there, of sweetened liquid, then to the hive where it is "boiled down" into the honey that is so delicious. We must, after reading, "boil it down," by thought and meditation, to the consistency that shall make it usable and valuable. Thus will our reading, of whatever kind, prove to be helpful and profitable.

Contributed Articles.

(Edition of 1899-1900.)

No. 2.—A Review of "A B C of Bee-Culture."

BY PROF. A. J. COOK.

(Continued from page 149.)

PAGE 147—It is stated that there are 53 different varieties of goldenrod. This is an incorrect use of the word variety. The goldenrods are species. The same as our bee—Apis mellifera. A variety or subspecies is one of the less markt divisions of the species. The Italian bee is a variety or subspecies of Apis mellifera. In the figure on the same page, the three plants each represents a species.

Page 172—I am surprised at Mr. Root's style on this page. "Tarnal nuisance" and "pawed out" might do in Gleanings in Bee-Culture, possibly, but some would quite object to them in a book like "A B C of Bee-Culture." Still, this is a matter of taste, and I may be hypercritical.

Page 173—The typographical errors in this book are few, but there was evidently faulty proof-reading in referring to the first figure on this page. The letters should be reverst.

Page 174—The figures of the book are usually clear and admirable, but the second one on this page I think a failure. I think the first one on the previous page gives a much clearer idea. This figure appears to me like a small cube inside a larger one. I should consider it a right-angled figure.

Page 177—A strange error occurs here, for which I fear my own poor chirography may be to blame. Mr. Root speaks of the coccids as scab insects. This certainly should be scale insects. I have a dim recollection that in one of my own articles written some years ago, the typesetter made my scale a scab. I fear that this is what misled Mr. Root. The statement is also made that these honey-dew-secreting insects—plant and scale lice—propagate in the topmost limbs of the trees. I doubt if this is correct, in fact I know it isn't. They attack the tree anywhere where they may happen to locate. All female scale insects, and many plant-lice, are wingless, and so are conveyed from tree to tree by bird or other insect. If they are left on the topmost branches by these carriers, they would very likely locate there. They are only carried when very young, and they are at this time exceedingly minute, and if left to their own means of locomotion, make progress slowly. We see, then, that accident alone determines what part of a tree they will occupy.

Page 179—I am quoted on this page to the effect that much aphid honey-dew is deliciously wholesome, and the honey from it superior. Mr. Root follows this with the assertion that "the ordinary stuff that we have in Ohio, and that which I have seen in other localities, is usually of a dark color and rank flavor, to me very sickening and unpleasant, and as Prof. Cook says, it should be sold to bakers and others desiring an inferior or strong-flavored honey." The error Mr. Root makes here is easily explained. I have no doubt but that the honey from Aphides is almost always of pleasing flavor, and so always makes good honey. I have never seen a case in which this was not true. While in the Yosemite last summer, away upon one of the highest peaks (Cloud Rest) 10,000 feet above the level of the sea, we ran across plant-lice on the pine trees. There were no bees in the region, and the honey-dew was present in great drops so that it was very easy to test it. All of our party pronounced it excellent. Perhaps I should say this was before they were told where it came from. This aphid honey-dew is common every year in nearly all sections of the country. Yet it is so unobjectionable that almost no one knows it. The bees take to it, and I doubt if they will often leave this even for the nectar of flowers. I have certainly known them to work on the honey-dew of the larch right at the time of the white clover bloom. Many of the bees were gathering from the clover, others were taking from the honey-dew. The mixture all sold readily as clover honey, and I am sure no wrong was done any one. The bark-louse, or coccid honey-dew on the other hand, is not so common, and is only present in certain years when the scale are very numerous. Another fortunate peculiarity is that it is distasteful to the bees, and they gather it only in times of drouth when the flowers are not secreting. Indeed, the scale insects of the East prosper most in a succession of dry seasons, just at the time when the flowers do not furnish nectar. The honey from this source is dark and rank, and well deserves the opprobrium Mr. Root has put upon it. I think our bee-keepers should all understand this distinction, and should become acquainted with the aphid honey-dew. It may be flavored. If so, it has not come under my observation.

Page 185—Two mistakes of faulty proof-reading are evident on this page. One of the beggar-ticks—Bidens frondosa, is referred to as Burr marigold. This should be Burr marigold. Likewise, Leonurus cardiaca should be motherwort instead of motherwork.

Page 193—Our author refers to the thorax of the bee as the shoulders. He shows the abdomen detacht, and states that it is detacht from the shoulders. This use of the word is not warranted by any good usage that I know of, and as thorax is a perfectly good word, I see no need of coining a new one.

Page 204—The letter "O" is omitted as marking that division of the work. Uniformity would be better observed if the "O" were supplied.

Page 213—A case of misspelling is made very prominent on this page. I think it is always spelt jasmine or jasmin. I have grave doubts as to the honey from this or any other plant being poisonous. It would be so easy to make the mistake. We know that honey makes some people seriously ill whenever eaten. That it might occasionally make a person sick who usually was proof against the ill effects is easily to be believed. I can understand how Xenophon might have made a mistake. A lot of hungry soldiers eating freely of honey would in almost any case give employment to the doctor. We know that falsehood once on the race-course spans the world while truth is harnessing her steeds. We can easily see how this idea of poisonous honey, once started, would run rapidly. If jasmine or mountain laurel do furnish poisonous honey, I can not understand why the evil effects are not more frequently experienced. I have received this so-called poisonous honey several times, and have eaten it without any ill effects. If I found any really poisonous honey, I should look to find if the arsenites had not been used at the time when the bees gathered the honey. I have known of cases where the larvæ of bees have been seriously poisoned by receiving honey poisoned with Paris-green which had been applied at time of bloom in the apple-orchard.

Page 214—In describing the way that bees get pollen, Mr. Root credits the tongue with an important part of the work. I have never noticed that the bee used its tongue to get the pollen. The antennæ cleaner on the front leg gathers the pollen, not from the tongue but from the antenna. I hope others will observe and see whether Mr. Root is right in the explanation. My own observations would the rather teach that the compound hairs which clothe the body so generally, and the legs of the bees, are the instruments used to gather the pollen. I doubt if the tongue has anything to do with it.

Page 222—Our author does well in using the development theory to account for the color of blossoms and birds. It is perhaps modest to say, "I can not positively affirm." I think, however, that no scientist to-day has any use for the interrogation-point in using the evolution hypothesis to account for the color in flower, fruit or bird. To question it shows that the writer or speaker is not conversant with the latest in scientific research. We are glad that Mr. Root has never been one to be afraid of truth.

Page 227—Is it wise to say that ten-day queens may be just as good as any? If I am right, experience, no less than theory, would argue against such queens. The bees give us a good lesson in this matter. When things are normal they start the queen from the egg. I think the wise breeder will always do the same.

Page 230—It is very interesting if Mr. Root's views regarding the presence of eggs or larvæ stimulating the

young queens to lay be correct. If it be true, I have no doubt it is owing to the fact that the bees were stimulated so that they fed the queen differently. Is it not more probable that it was simply a coincidence? I think a good many experiments should be tried before we reach this conclusion.

Page 232—That the thread which evinces that mating has taken place is absorbed into the body of the queen, I think very improbable indeed. It is of a kind of tissue that would be slowly absorbed, and want of contact would make absorption very slow. That it could dry up and disappear is easy to believe.

Page 250—I am not at all sure that bees do not communicate. A study of their brain would make this seem possible. That they are one-idead insects seems also to me not proven, as the judge would say. The very case Mr. Root gave, I think would warrant this conclusion. When bees are not gathering, how quickly honey some distance from an apiary attracts multitudes of bees if exposed. I think Sir John Lubbock would give a decided "no" to this idea, that bees do not communicate. If any man living has a right to an opinion regarding the intelligence of ants and bees, it is he.

Page 255—Here again Mr. Root advises the use of the lantern. I have tried the night-working with bees several times when necessity compelled it, and I should be slow to recommend it, especially to a novice.

Page 261—Mr. Root's com mendation of California in view of the prolonged harvest is very timely. The white sage of the valleys precedes the black sage of the canyons, and, as he so well says, "the bees first commence working in the valleys and then gradually fly higher up as the blossoms climb the mountain sides, giving a much longer season than we have in regions not mountainous." There is another fact that greatly extends the period of bloom in California —many flowers, like the white sage, are in long racemes which bloom centrifugally, that is, the outside flowers bloom much earlier than the inside flowers, or the lower flowers blossom earlier than the upper. This, of course, greatly prolongs the period of bloom, and consequently, the honey season.

Page 276—What warrant is there for stating that formic acid is a vegetable acid secreted from the honey and pollen? I think there is none. I believe that it is equally untrue that the poison is more pungent when the bees are working. The formic acid is a secretion of the insect, and in no sense a vegetable secretion. If the poison is more irritating at one time than another, it is because there is more of it. When bees are idle, all their functions will be less active and so less poison would be secreted. Yet I have my doubts in this matter. I have never known bees to sting worse, or the wound to be more painful, than in the autumn when the harvest was all over.

Page 277—I am surprised that our author teaches that stinging does not kill the bee. Who has not known cases where thousands of bees have died from stinging? In the case of the cow killed by being stung, which I described in the bee-papers some months ago, so many of the bees lost their lives that the apiary was sadly depleted. I have proved by direct experiment, that losing the sting means to lose the life. Death, however, may not immediately follow the wound.

(To be continued.)

Adaptability of Bee-Keeping to Women.

BY MRS. L. C. AXTELL.

I AM surprised that more women do not take up bee-keeping as a business, for I am sure they would find it profitable, conducive to health, and a pleasure, if followed perseveringly.

As bees never ought to be handled except in warm weather, in taking care of them there is no need of exposure in unsuitable weather, as is often necessary in other outdoor work, especially in caring for poultry. I have often seen women out in a pouring rain gathering up little chickens, and have done it a great many times myself.

Keeping bees is light work, requiring but little heavy lifting, except when putting the bees into the cellar for winter, and that is not really necessary, as they can be made warm and dry and left on the summer stands. Simply remove all extra combs and surplus from the hives, and fill the empty space with dry chaff, first covering the combs the bees occupy with thick cotton-cloth, to prevent the chaff from falling down among the bees.

If bees are gentle it is a real pleasure to me to see them flying around and hear their happy hum among the flowers—they are company just as all life is company. A few neatly painted hives set in the front or side yard add to the beauty of the premises, making a home look attractive. I would not have the bees very near to the walks, as some people are afraid of them.

Some of our most successful apiarists are women. Most men bee-keepers have women helpers. Indeed, much of the work to be done with the bees seems just adapted to women, as they are more likely to look after the little things than the men. Where a home is heavily mortgaged, if the wife or grown-up daughter would engage in bee-keeping, she could do much toward lifting the heavy burden from the shoulders of the husband and father. Even if there are no debts to pay it is nice for a woman to have some money which she feels she has earned herself, as there are so many ways in which she can use it—for benevolences and the like—and there is real joy in giving what one earns one's self. Then, it is quite a help to have plenty of honey to use; it doesn't require any preparing or cooking, and if unexpected company comes a section of nice honey or a dish of candied honey helps to fill up the table, and most people enjoy eating it.

I think one great reason why more women do not take up bee-keeping is because they are afraid of the stings. But if Italian bees are kept, and handled gently, working with them only when the weather is warm and sunshiny, always giving them a puff or two of smoke at the entrance before opening the hive, having the face protected with a bee-veil and the wrists tightly wrapt, a woman will soon become so used to them that she will have no more fear of the bees than of a sitting hen. Bees resent quick movements so it is well to move slowly and easily when working with them. It might be well for two beginners to work together, one to use the smoker while the other works, but care must be taken not to use too much smoke. The odor from a crusht bee seems to anger them, but a little smoke will subdue them.

When a woman makes up her mind to begin bee-keeping she must begin right. Buy good hives, and good colonies of pure, gentle Italian bees—not the very yellow ones, as I have had the very yellow Italians that were worse to handle than any blacks or hybrids we ever had. The queens of such colonies should be destroyed, and ought never to be sold to beginners. Then the next thing she should have is a good text-book on bees—don't buy an old one because it is cheap, but get one that is up with the times. Follow the book very closely the first few years, and pay little attention to what a neighbor advises unless you know him to be a practical apiarist. It is better to have few colonies at first, and I am not sure but that it is just as well to have five as one, as it seems hardly worth while to spend the time reading up for only one colony when one can just as well look after three or five.

Many women will say they have no time to spend in caring for bees, and yet they spend much time working in the garden, and with flowers, or poultry, and none of these things pay as well for the time expended as do the bees. Better have a few colonies of bees, and a little less of something else—perhaps fewer ruffles and tucks on the children's clothes, or make less pies and cakes.

In order to make bee-keeping easy and successful we must do everything at the right time, and have things in the right place. Bees will not put up with slipshod ways. We must follow their instincts more or less, and help them in following them out to the best advantage.

If weak women would have the care of bees all to themselves, and be removed from all other work and care, very many of them would find their health. I know this from experience. Working with the bees has done me more good than hundreds of dollars spent for medicine could have done.

There is something very fascinating about bee-keeping, and when once a woman gets interested she forgets her aches and ailments, especially if she has enough colonies to look after to keep her busy. When swarming begins, and being short of help, she will see to it that the swarms are cared for if she is only half alive, and the work will become so exciting and exhilarating that before she is aware of it she will be on the fair road to recovery. She has been working out-of-doors, breathing the fresh air, been somewhat sunkist, heard the birds sing, and forgotten her own troubles; and bodily ailments have taken unto themselves wings and flown away. Warren Co., Ill.

Large Brood-Chambers For Queen-Rearing.

BY G. M. DOOLITTLE.

A CORRESPONDENT writes thus: "Will you please tell us something about rearing queens in large brood-chambers, in the American Bee Journal? I use a large one-story hive holding 18 frames, running parallel with the entrance, so I can not very well use the plan requiring an upper story, as given in your book. How would you proceed to rear queens in such a hive as the one spoken of above?"

The hive spoken of by the correspondent is very similar to the one which I used when the plan of rearing queens in a hive having a laying queen in the same, first came to my vision. Some years before I had made four hives on the "long-ideal" plan, which was brought to public notice a score or more of years ago by D. L. Adair, of Kentucky. These hives were used a few years for extracted honey, but laid aside, as I found it paid better to work my apiary more wholly for comb honey.

Soon after this, D. A. Jones, of Canada, came out with a new plan for working for comb honey, in which he placed the queen and six to eight combs of brood in the center of a long hive and filled out the ends with sections, claiming that in this way large quantities of section honey could be produced without much swarming; and as these long-ideal hives would be just the thing to try the experiment with, it would cost me very little to see what there was in the plan. So I changed the combs and bees from my regular hives back into these hives again, put in two queen-excluding division-boards, so as to shut the queen on five or six combs in the middle of the hive, according to his plan, when the first thing which came to my notice in opening the hives a week later was sealed queen-cells wherever there was any unsealed brood left which the queen did not now have access to. These I carefully removed, till there came a time when work crowded so that the removing of these cells was neglected till they hatcht, went out of the hive, were fertilized and commenced to lay, so that I had two laying queens in some of these hives. Had it not been for this experiment in producing honey on the Jones plan, in all probability "Scientific Queen-Rearing" would never have been written, for right here was where I got my first ideas on the subject which finally developt into the matter found in the book.

In carrying out the Jones plan wide frames of sections were put next the apartment containing the queen, and, every ten days or so, some of the combs that had been with the queen, and were now full of eggs and brood, were taken out and placed beyond the wide frames of sections toward the ends of the hive, and empty combs placed with the queen to take the place of those removed. In this way the queen was given all the room she required for laying, the bees kept from swarming, and the bees coaxt to work in the sections to the greatest advantage. And it was on these frames of brood, placed beyond these wide frames of sections, where these queens were reared as spoken of above.

It will be noticed that there were wide frames of section between the combs where these cells were reared and the queen-excluding division-board which kept the young queen in her place, and these wide frames had separators on them which tended to keep the young queens from going to the perforated zinc and quarreling thru it with the old queen. As the plan of securing honey in this way was a failure in my hands, these hives were cast aside again, and the upper-story plan was adopted as given in my book. But I have found from long experience, that, where ever there is unsealed brood on which the bees cluster, but from which the queen is excluded by means of perforated zinc, enameled cloth with a hole or two in it, or a division-board with a crack in the same, the bees will generally build queen-cells on these combs, and if it is so that the young queen hatching from these cells can not "touch noses" with the old queen, and if there is a place of exit from the part of the hive in which this queen hatches, she will generally, in due time, become fertile, when a honey-flow is on, and go to laying, the same as she would if there were no other queen in the hive.

Hence, to rear queens in such a hive as our correspondent uses, all we have to do is to fix the same so that two or three combs of brood can be put in one end of the hive, and between these combs of brood and the apartment having the laying queen, put two queen-excluding division-boards, these latter being half an inch apart, so that the queens can not touch each other. From past experience, my way of fixing such hives would be to keep the laying queen in the rear end, on as many combs as I desired her to occupy, placing next to her apartment a queen-excluding division-board. I would now place two empty combs next to this division-board, and immediately in front of these but in another queen-excluder. I would now fill out the remaining space between the last excluder and the front end of the hive, or entrance, with combs of brood and honey, and rear queen-cells there, and have them fertilized from the same, as I gave in my book.

Now, while I have told what I would do when using such a hive as the correspondent says he is using, yet I do not feel like closing this article without saying that, in a locality like central New York, such a hive is not the one for the practical bee-keeper to use if he wishes to produce the most honey with the least capital and labor.

Onondaga Co., N. Y.

No. 1.—Practical Lessons for Beginners in Bee-Culture.

BY REV. J. D. GEHRING.

I WAS working in my apiary one beautiful May morning transferring brood-frames from one hive to another. It was what bee-keepers would call a typical bee-day. I had hived four swarms that morning, and the bees were fairly crazy in their eager rush and hum, gathering in the rich nectar which the blooming white clover was yielding in great abundance that season. I was stooping over an open hive, in the act of taking up a frame of brood, when I heard my name spoken, and some one saying, "I would just like to know what you are doing with that hive of bees?"

Straightening myself up hastily, I saw directly in front of the hive at which I was working, and standing within a few feet of the entrance of the same, a ruddy-faced, cheery-looking man, whom I knew as Reuben Bond, a farmer living about four miles out of town. At the same moment I also saw that Mr. Bond had hitcht his team of beautiful young horses to a post of my yard-fence, not more than 25 feet from the first row of the bee-hives. Taking in the significance of the situation at the first quick glance, I for the moment ignored his friendly salutation, and said:

"You are in danger there, Mr. Bond—better come away at once. Your horses are in danger, too, where they are. Suppose you take them around into my back yard, while I close these open hives and get ready to talk to you where it is more quiet and safe than it is here at present."

But, tho I had lost no time in being decently polite, my admonition came too late for Mr. Bond. My last words were scarcely uttered when I saw him slap his right hand to his face, and, uttering some incoherent exclamation, start on a stooping run toward the house, and before I could do or say anything, darted down the open stairway of the cellar, and was out of sight in a twinkling.

I closed my two open hives and followed him, directing my son, who just then came around the corner of the house, to take care of Mr. Bond's team. I found the runaway just inside the door of the cellar, puffing and blowing, and rubbing the end of his nose. Noticing his action, I knew where to look for the instrument of torture. Drawing him toward the open door, where I could see, I gently lifted the sting out by placing my thumb-nail under the poison-sac, instead of grabbing hold of it with thumb and finger, as bee-sting doctors usually do, and thus squeezing into the wound all the formic acid contained in the little sac attacht to the sting.

"Never rub a bee-sting," I said to Mr. Bond, "until after you, or some one else, has performed the operation I have just shown you how to do properly. It's a lucky thing the little fury didn't hit you in the eye. We can apply almost any kind of a remedy to the nose, but not to the eye."

"Aint it queer, tho, how quick those pesky bees left me when I got in here," remarkt Mr. Bond, as he gently rubbed the end of his nose. "What do you do for bee-stings?" he askt, as we ascended the cellar-stairs.

"Usually I pay no attention to them," I replied; "because usually I am stung when I am too busy to run away from my work and doctor bee-stings. I seldom get stings in the face, however, because I wear a bee-veil whenever I do work among the bees that is liable to put them on the defensive. They always fight in defense of their home and property, Mr. Bond, and seldom for any other reason. And there is no telling when bees will not sting when they are being disturbed, and they suspect that the disturber intends some sort of mischief to them. The principal reason, however, why I wear a bee-veil is, because they always aim for the eyes when they have a chance and the disposition to sting. And, as I always need my eyes, even more than my

hands, *and nose*, Mr. Bond, when I am busy with a hive of bees, I wear a veil to protect them. When a man tells me—even if he is an old bee-keeper—that he never wears a veil in his apiary work, and that he never gets stung, I am disposed to think that he is talking thru his last year's hat.

"Now come with me to my honey-house and I will see what I can do for your nose, Mr. Bond. I use alcohol for bad stings—red-hot ones, like the one you got on your nose—when I use anything at all. I will let you try it.

"Here," I said, after we had entered the room in the honey-house that I called my workshop, "I always keep a bottle of alcohol for emergencies. A small sponge saturated with some of it and applied to your nose for about ten minutes will relieve the pain and reduce the swelling. I think the alcohol neutralizes the formic acid in the sting-wound."

"Now, please tell me," said Mr. Bond, after several minutes silence, "why I got stung the minute I stept in front of that hive you were working at, and you, with your hands and your nose right down among the bees, wasn't toucht."

"That's easily explained, Mr. Bond," I replied. "I account for it in this way: My bees know me. They are accustomed to my presence and to my manipulations. You, on the other hand, are a stranger. They know you as such by sight and smell. Then, to make bad worse, you plant your perspiring person directly in front of their only door, and so near that they can't help but regard you as an intruder, with evil intention toward them. There are always a number of bees on guard at the entrance of their hive, and these guards are very vigilant. No doubt they saw you at once, and one of them took aim at your face and struck your nose. A hot sting like that is never an accidental one, I can assure you. It's a good rule never to stand in front of a hive of bees, or even to walk past near the entrance unless you can't possibly do otherwise."

"I believe in that rule implicitly since my late experience," remarkt Mr. Bond. "But, will you now teil me why those bees that followed me to the cellar left me as soon as I got inside the door?"

"They left you because bees never go into a dark room if they can help it—except, perhaps, to steal honey—and, because they were satisfied as soon as you were out of sight when you got there. And here let me mention the fact for your benefit, that a person who is being stung and followed by a lot of angry bees can do nothing that so promptly and completely defeats them as to run into a room. A dark room, of course, is best, but any room will do better than to run about outside vainly fighting them. They give up as soon as they find themselves prisoners—always and everywhere."

"That's a very interesting fact to know," remarkt Mr. Bond; "but I don't quite understand what you mean by saying, 'my bees know me.' You don't mean by that that bees in general have sense, do you?"

"Yes, Mr. Bond, I certainly believe that bees have sense. But my belief is surely not orthodox, for, everybody—even the vast majority of bee-keepers—give bees credit for a high degree of instinct, and nothing more. But can you tell me what instinct really is? Can anybody tell me what the distinction is between instinct and intuition? By intuition we know things as by instinct. That is, intuition is knowledge which is not acquired thru the reasoning process. No one can prove that bees can not and do not reason. I can mention several things that bees do that they couldn't and wouldn't do by instinct alone. Here, for instance, is a sample of their work"—taking a pound section of white-clover honey from an open crate near me and holding it up before him as I spoke. "Examine it and see if it isn't perfect in every detail. See how white and even the comb is, and how beautifully it is fastened to the wood of the section all around. When they put that honey into those cells it was not honey, but nectar, or sweet water, very little thicker than water. They converted it into honey, thick as the best sugar syrup, by evaporating it. And how, do you suppose, do they know that evaporation is necessary? and how do they do it? They know by instinct, I suppose, and they seem to know, too, that fanning the open cells of sweet water will thicken it to its proper consistency.

"The bees seem to have sense enough, too, to understand that this fanning work is best done during the night, when all the nectar gathered for the day is stored in the combs, when the hive needs extra ventilation on account of the heat caused by the whole colony being at home, and because it saves precious time. It's the bees that do the work of gathering the nectar that must also do the evaporating work. Drones will not do it, because it's work, I presume; and the baby bees in the hive can't do it before they have learned to fly.

"Now, Mr. Bond," I continued, "look at the surface of this comb. You see it is perfectly smooth and regular, and almost snow white. I have 1,600 like this stored in my honey-room just beyond the partition, all filled and sealed like this, since the first of this month, by 16 colonies. You see, they not only know how to work, but how to do the best kind of work. They make no mistakes, and they never seem to forget anything. One of the most curious things about this comb work is, that there is an air-space between the honey and the wax with which the surface of the comb is covered, or sealed. How they manage to produce this air-space, and how they know it to be necessary, are bee-secrets which have never been whispered into inquisitive ears. But bee-keepers do know that, but for this air-space, that beautiful white surface of the comb would be an impossibility, because without it the honey would come in contact with the wax, soon softening it, causing it to break up and let the honey ooze out. You can see how important this little item becomes when you realize the fact that with this air-space omitted by the bees, shipping comb honey to the markets would be out of the question. We would be limited to extracted or liquid honey."

Before I could proceed to explain further, Mr. Bond suddenly jumpt to his feet and lookt anxiously out of the window that afforded a view of the apiary and the street beyond. I knew what the movement meant, and could afford to smile as I said:

"You are anxious about your horses, Mr. Bond. Well, you needn't be. My boy put them into the stable and fed them soon after the fracas. If you will go with me to the house, we will now have some dinner, and I will show you my wife and children. Then, if you care for another dose of bee-talk, I shall be glad to have you spend the afternoon in the shop with me. I have a lot of sections to put together and prepare with comb foundation, and I can talk while I work."

(To be continued.)

REV. J. D. GEHRING.

The subject of this sketch was born Dec. 15, 1837, at Buchberg, situated at the foot of an isolated haystack-shaped mountain bearing the same name. It is presumed that the mountain existed before the town, hence it is also presumable that the town was named for the mountain.

From the top of this mountain the snow-clad Alps could be seen. The famed "Rhinefall" at Schaffhausen, Switzerland, is within hearing distance of Buchberg.

His father, at the age of 60, emigrated to the United States in 1848, with wife and eleven children, and bought a small farm in Fulton County, Ohio.

Mr. Gehring enlisted as a private in Co. C, 27th Wis. Vol. Infantry, served three years, and was mustered out a 1st lieutenant, and as a cripple for life. Disability was caused, mainly, by a sharp-shooter's "minnie ball," which past thru the back of his neck, fracturing the vertebra, and resulting in partial paralysis of the left side. Other serious results developt as time made history and old age.

He began keeping bees in Parkville, Mo., in 1884, started with two colonies, both presents from friends who didn't know what to do with them, and were anxious to get them out of the way for fear of getting stung. Transferring these two colonies to "movable-frame hives," and handling over 300 pounds of white-clover honey, in pound sections, the first season, persuaded his then easily impressible mind to believe that he had now ceast to be a keeper of bees, and had become a bee-keeper instead. Mr. Gehring keeps his front door latch-string always hanging outside for visiting "friends" of the ancient craft.

Thru a somewhat remarkable combination of circumstances he and Miss Anna J. Doty were brought together in 1866, and have continued the happy union as husband and wife into this the 20th century. Five children—four

daughters and a son—are in evidence to propagate the parental union of German and Scotch-Irish blood.

It may not be amiss to say for Mrs. G. that *she loves bees*—in the abstract sense—but bees never learned to love her—not, however, because she is not a lovable woman, but, rather, because her husband's bees never seemed disposed to let her get intimately acquainted with their way of doing things when they were out of humor. It was not owing to any fault in her character; nor could the fault have been owing to her Scotch-Irish descent, that Mrs. Gehring's earnest effort to become her husband's "helpmate" in bee-keeping was a failure from the start. It remains a puzzle in Mr. G.'s mind to this day why bees—well-trained and usually well-behaved like his were—should behave so badly toward a sweet, mild-dispositioned and loving little woman as ever blest the life of a bee-keeper. But these bees did treat her badly—on a certain special occasion—and the resulting coolness between her and the whole apiarian tribe will end only with life.

Referring to the Falls of the Rhine, in Switzerland, Mr. Gehring writes us as follows:

The Rhine is one of the most interesting rivers in the world. Its source is among the Alpine glaciers of Switzerland, and its waters enter the sea thru the lowlands of Holland. On its banks is every variety of scenery, towering mountains, wild and picturesque rocks,

Falls of the Rhine at Schaffhausen, Switzerland.

dense forests and fertile plains. It flows between flourishing villages and populous cities, castles and ruins with which a thousand legends are connected. Along its course for many centuries great historical events have been taking place: the victories and defeats of the Romans, the heroic deeds of the age of chivalry, the coronation of kings, the meetings of ecclesiastical councils, and the wars of modern times. We can not wonder that such a river is regarded with little less than reverence, and that great numbers of tourists come from all parts of the world to look upon it.

The upper Rhine is especially remarkable for beautiful scenery. The Falls of the Rhine near Schaffhausen form one of the finest cascades in Europe. The breadth of the river above the falls is 126 yards, and the hight of the unbroken fall is about 60 feet. If the rapids above and below are taken into consideration, the total fall is nearly 100 feet. Not far above the falls is a bridge known as the "Rhinefall Bruecke" (Bridge of the Rhinefall). High above the river on a wooden rock stands the Schloss Laufen (castle of the rapids). From a garden of this picturesquely situated edifice the best view of the falls may be obtained, one gallery projecting over the roaring, seething cataract.

In the year 1845, when eight years of age, my Aunt Ann, a sister of my mother, took me on a visit to my grandparents, who resided about nine miles northeast from the falls, and about 18 miles from my home on the banks of the Rhine below the falls. On the way we past thru Schaffhausen, and stood together, hand-in-hand (I being afraid to stand alone) upon the bank of the river viewing the awe-inspiring scene. The spot where we stood was a little way below the cataract, not far from the old mill seen upon the left bank in the picture. The railroad bridge above the falls was not there then. There was no railroad in all Switzerland before 1850. JOHN D. GEHRING.

The Chicago Convention Picture is a fine one. It is nearly 8x10 inches in size, mounted on heavy cardboard 10x12 inches. It is, we believe, the largest group of bee-keepers ever taken in one picture. It is sent, postpaid, for 75 cents; or we can send the American Bee Journal one year and the picture—both for $1.60. It would be a nice picture to frame. We have not counted them, but think here are nearly 200 bee-keepers shown.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Drones and Swarming.

1. If I destroy all the drones from a colony that wants to swarm, will this prevent swarming?

2. When a swarm leaves a hive, and I have the Alley queen and drone trap on, are you sure the swarm will return to the hive? SUBSCRIBER.

ANSWERS.—1. No; but it is thought there is less likelihood of swarming if drones and drone-brood are kept down. But it can by no means be counted on as a sure prevention of swarming.

2. If you have only one colony, you may count to a dead certainty that in the case you mention the swarm will return to the hive. In any case you may be sure that the swarm will not go off, and under ordinary circumstances that it will go back to the hive from which it issued. But if it should happen that a little while before another swarm had issued and returned to its hive, the bees still making a loud call at the entrance of the hive, your returning swarm *might* return to this latter hive instead of returning to its own.

Tall vs. Square Sections, Etc.

1. I began bee-keeping last year and now have 36 colonies. My troubles are caused by the great variety of bee-supplies. I have 60 supers meant for 4¼x4¼ bee-way sections. Now I want tall sections with no bee-way. I think of buying 60 supers designated "L." These take 4x5 sections. Now, can I alter the old supers so they will carry 4x5 sections? I'm afraid robber-bees will get in.

2. Will filling all cracks with white lead injure bees in any way?

3. I think of using full sheets of light brood foundation in all frames when hiving swarms, these sheets to be wired. Is this a good plan?

4. Do you prefer tall sections with no bee-way to the old-style square ones with bee-way?

5. Are the combs less liable to be built together? and do the bees enter them as readily tho they sit across the frames? COLORADO.

ANSWERS.—1. There are so many different surplus arrangements that take 4¼ sections that it is impossible to tell how much change would be required; but by the exercise of a little ingenuity almost any of them could be changed to take 4x5 sections.

2. It will do no harm.

3. An excellent plan.

4. It is largely a question of one's market. Some prefer one and some the other.

5. You will probably find no difference.

Bees Diseased and Dying—Closed-End Frames.

1. I took 12 strong colonies of bees on shares last spring. One or two swarmed and almost all stored a little surplus. When I prepared them for winter—that is, took off the supers—they had plenty of honey and appeared to be strong, and along about January 1st, I examined and found all dead but three. On examining the combs of the dead ones I found fully ⅓ of the cells with capt brood, with a small puncture in the cap, and an offensive smell, not like a glue-pot. I took five back to the owner last summer that were too weak to defend themselves, and I didn't want any robbing. The owner (a beeman of 20 years' experience, so he says) claimed it was caused by moths. The bees I have here haven't any moths in the hives; besides, I haven't any trouble with the moth, anyway.

2. If it is foul or pickled brood, why do they die in winter without any brood, and be stronger in bees than some of my weak ones?

3. What course should I take to prevent it from spread-

ing to my own bees? I fear they got some of their honey. The diseased colonies have been destroyed by fire and water, and every caution preserved all summer, or while I have been suspicious.

4. I went to a sale of a bee-keeper who made hives to sell of his own invention, and bought several for almost nothing. Knowing nothing about the hive, I would like to be enlightened. I enclose a pen outline of it. There being no space at the ends of the hive, will the bees winter as well as on Langstroth frames? It is what I would call a closed-end frame. INDIANA.

ANSWERS.—1. I don't know what the trouble is, but it can not be charged to the moth.

2. Whatever disease of the brood, or whether any, there seems to have been some wintering trouble that would produce such loss.

3. Keep everything as snug and clean as you can, taking special precaution to prevent all robbing of infected or suspected colonies by allowing no cracks or too large entrances to invite robber-bees. Be sure that none of the suspected colonies are weak. If they are, unite them. There will be no real loss in this, even if nothing is wrong with them. Carefully study all you can find that will inform as to the brood diseases of bees, including what has been said in back numbers of this journal and Dr. Howard's brochure on foul brood. A thoro knowledge of the whole subject will enable you to judge more intelligently what is to be done than can any one at a distance.

4. It would seem from the pen sketch that the end-bars of your frames form the end-walls of the hive, after the fashion of the Quinby-Hetherington standing-frame hive. Not a large number of bee-keepers use this hive, but a few use it in very large numbers. The end-bars are sufficient for the end-walls of the hive, but some use an outside case to set down over the whole as additional protection in spring.

Basswood for Brood-Frames—White Clover—Honey in Candies.

1. Is basswood all right for brood-frames, or will they be short-lived?

2. Is there more than one variety of white clover?

3. Is there much honey used in candies?

WISCONSIN.

ANSWERS.—1. Basswood is not too short-lived for brood-frames, but entirely too lively. You probably know that it is unusually bad to swell and shrink, and it twists out of shape altogether too much for anything that needs to be as exact and permanent as a brood-frame.

2. There is the common white, and the white Dutch. The latter is said to be a large kind, and sown on rich soil it grows quite large. But so will the common, and I feel sure the two are one and the same thing.

3. Probably not. It would be very much better for the public if some of the glucose in candies were replaced by honey.

Bees Dying—What is the Cause?

Of 76 colonies that were in fine condition about Dec. 1st, there remain alive at present 30 colonies, and I expect some or all to die soon if nothing can be done for them. They all had plenty of honey so that was not the cause, or at least the quantity. The bees could not fly one day for nine weeks. Of those that are dead, part of the bees are on top of the frames in a mass, and part in some lower corner; and all, alive or dead, have the inner part of those hives, including frames and bees, perfectly wet and soiled; also it smells very strong. All are on the summer stands. Some were in single-wall hives, some in chaff hives, some had chaff cushions over the frames, and some had none, but all are affected alike. There was hardly any honey for the bees to gather last fall, and they workt freely on half-rotten and bruised apples in various orchards; but some received their entire supply of winter food by feeding granulated sugar as late as Sept. 20th.

May it have been caused by doses of poison not sufficiently strong to kill them while gathering it? It is very probable that they received some. What shall I do for them? WEST VIRGINIA.

ANSWER—This is one of the times when it is painful to say I don't know, and yet I am obliged to say it. Working on rotten apples in orchards could hardly do so much mischief, unless there were cider-mills from which they obtained large supplies. It will hardly do to lay the trouble to the general stores, for some had their entire supply of granulated sugar. The guess that there was poison in the case seems a reasonable one, but if it were poison would it not have killed the bees sooner? The thought comes that the entrances may have been closed so tight that there was something like suffocation in the case, but a man with 78 colonies has in all probability had too much experience to make that mistake. In any case the trouble was no doubt aggravated by the confinement of 9 weeks.

It is nearly certain that in your latitude bees are now flying, and there will be some good done by cleaning up all the hives and getting out the dead bees. If the trouble continues after the bees have had a good flight, try at least a few by taking away their stores and giving them sugar syrup. It is to be hoped that a good flight will do much good.

Sugar-Candy for Winter Feeding of Bees.

In the "A B C of Bee-Culture" (1891 edition, I think), there are directions for making hard candy for feeding bees, by boiling sugar with a little water. I believe Mr. E. T. Abbott has also frequently recommended such candy. I wish you would tell me thru the American Bee Journal if you have ever tried such candy, and with what results. I considered the above authority so good that I recommended it in a couple of instances before trying it myself. I also riskt a few colonies on such feed and just happened to discover in the nick of time that it doesn't seem to do for this "locality." In short, one colony was dead—clustered right up against the candy—and one was about half dead, that is, a large portion were just able to hang to the combs—too far gone to crawl around. The other colonies all had a little honey yet and were all right. I hastened to give them combs containing some honey. The candy had been on only a week or two, and the colonies were in good condition when it was given. They are packt with leaves on the summer stands, and there has been no cold weather to speak of—a very mild winter here. They gnaw thru the candy and it falls on the bottom-boards about as granulated honey looks when the bees have such in their combs to use. I am sure the candy is not burned, in fact it looks just as Mr. Root says it should—"dry and hard as slabs of marble"—and about as valuable, according to my experience. What say you was wrong? IOWA.

ANSWER—I have never had occasion to feed candy, but would have said with no little confidence that you would have no trouble whatever. I must confess that your experience staggers me, and I don't know enough to account for it. I suppose that tons of candy have been fed, and I do not remember to have read a single report like yours heretofore. It looks somewhat as if there had been so much stirring that it was stirred down to sugar, but that could hardly be the case if it stuck together as candy. If any of the good friends can throw any light on the case, it will be a great favor. Has any one else had a similar experience?

Convention Proceedings.

Report of the Michigan State Convention.

BY WM. G. VOORHEIS.

The Michigan State Bee-Keepers' Association held its annual meeting at Traverse City, Mich., Dec. 26 and 27, 1900. The meeting was called to order by the president, and Mr. A. I. Root offered prayer.

The president made a few remarks referring to present needs, and the purposes and educational work of the Association.

GETTING BEES TO WORK IN THE SUPERS.

A. S. Dobson—How can we get bees to work in the supers?

Mrs. George Jackson—Smoke them up into the sections when the brood-combs are filled with brood, and they will work there if you put on some unsealed sections.

W. Z. Hutchinson—Put on unsealed sections.

George Hilton—When using deep frames, and the bees do not enter the sections readily, take out the side frames that are filled with honey, and extract it; then return the empty frames, but put them in the center of the brood-chamber. When the bees will not work in the supers it is sometimes because there is too much honey in the brood-chamber, and this choked condition is often caused by honey being carried over from the previous season. We have to put supers on early in northern Michigan.

Mr. Hutchinson—To get the bees to work in the supers, half or partly filled sections are sometimes used. Get the bees to clean out these unfinisht sections the fall before, and in the spring they can be used. Sometimes the outside frames in the brood-chamber are filled with honey These can be uncapt and placed in the center of the brood-chamber, when the bees will carry this honey up into the sections.

Mr. Beecham—I can not always get the bees to work in sections or starters.

Mr. Hutchinson—I use drawn combs to get them started.

Wm. J. C. Davis—I have had no trouble with bees not working in the supers.

Mrs. Jackson—I have had no trouble with bees loafing. I tier up the supers with partly filled sections.

POLLEN IN THE SECTIONS—CROSS BEES.

Mr. Beecham—I produce extracted honey altogether. I have had trouble with the Heddon hive, as I have to use a queen-excluder. When I produced comb honey and had to use a queen-excluder the bees put pollen in the sections, and the queen sometimes got thru the excluder and laid eggs in the sections.

Mr. Hutchinson—I have no trouble with pollen in the sections, and would suggest that Mr. Beecham put a comb in the brood-chamber from which the honey has been extracted, and this comb would take the extra pollen. I should think that being bothered with pollen in the sections in this way was a good deal a matter of locality.

Mrs. Menold—When the frames are filled with honey I take out one of them and put a new one in its place.

Mrs. Menold—What shall I do with cross bees?

Mr. Hutchinson—Change your queens.

WINTERING BEES—PUTTING ON SUPERS.

Mrs. Menold—I do not winter my bees in the cellar. I put a dry-goods box over the hive and pack hay between the box and the hive.

Mr. Beecham—I have had trouble with bees storing honey on frosty nights. I would like to ask Mrs. Jackson if she winters her bees in the cellar.

Mrs. Jackson—Yes. I do not put them out until the willows bloom, and I put on sections in apple-bloom.

Mr. Beecham—I think that bees should be protected on cold nights in the spring. For the past two years I have wintered mine in the cellar, and think that when they are so wintered they will dwindle in the spring.

Mr. Coveyou—I think that the supers should be double-walled and tight. I should also want double-walled hives.

Mr. Root—I think that bees in chaff hives will not be affected by cold nights. If the bees are to work in the sections at night the supers must be warm enough for them to do so.

Mr. Berg—I lose more bees in the cellar than in chaff hives, so I prefer to winter them in chaff hives.

Mr. Hilton—I have cushions on all of my hives. I think the cushions must be retained on the supers in order to have the bees draw out the comb. The supers must be tight or the bees can not work in them, and it will not do to put on supers when the brood-chamber is only half full of brood. The brood-chamber must be filled with brood and no honey, and the hives must be warm.

Mr. Beecham—I was led to use the Heddon hive so as to avoid the handling of so many frames. I would like to ask if Mr. Hilton has any trouble in getting out the first frame.

Mr. Hilton—None at all. I have self-spacing frames with thick top-bars.

Mr. Sillsby—I have no trouble in getting out the first frame; I use a block with a slope to it, and have thick top-bars. Neither am I annoyed with brace-combs.

Mr. Hilton—I leave a ⅜-inch space between the top-bars to prevent brace-combs.

Mr. Beecham—One must be a good judge to know when is the right time to put on supers.

Mr. Townsend—I use full sheets of foundation.

Mr. Root—One must have the hives tight so that the cold air can not get in.

Mr. Beecham—I have had trouble with bees that would not store honey in sections, but would store it in the extracting combs.

Mr. Townsend—They will store honey in the extracting combs better than in the sections.

Mr. Hilton—I have had experience with both starters and full sheets of foundation, and the sections have been finisht sooner when the full sheets were used.

PLAIN SECTIONS AND FENCES.

Mr. Coveyou—I like the fence separators best, as the queen does not like them.

Mr. Root—Three-fourths of the orders now are for plain sections with fence separators.

Mrs. Menold—I use a section plain all around.

Mr. Hilton—A plain section is one without the inset. I never had first-class section honey until I used plain sections. The sections must be taken off as soon as they are capt over or they will be travel-stained. The tiering-up must not be continued too long. The plain section without the inset has come to stay. The honey that sells to fancy trade is that secured by using plain sections and fence separators.

Mr. Berg—I used plain sections for the first time the past season, and like them the best.

Mr. Fox—I have sold my honey in plain sections in this city.

USING OLD SECTIONS—ALSIKE CLOVER.

Mr. Root—Does it pay to use sections that have been used the year before?

Mr. Hutchinson—I think that if the old sections have been taken care of and kept clean they are all right to use again.

Mr. Hilton—I have put on sections that have been used before, but every year I use less of them. No sections ever come off as nicely as the first I put on—the first honey here is the best. I get better results when I use new sections, as the bees seem to work better in them.

Mr. Beecham—I have always used drawn comb in the sections. I take off sections before the buckwheat flow, as I do not want it to get mixt with the white honey.

Mr. Berg—I have used cleaned sections with drawn comb, and have found that the bees would get these combs uneven. I get the best honey from new sections, when I use full sheets of foundation.

Mr. Sillsby—I sold all of my white honey for 15 and 16 cents per pound. There are 100 acres of alsike clover near me, and the bees work better on it than on red clover.

Mr. Storer—I had a fine lot of honey from alsike clover; bees like it the best.

EARLY FEEDING—WORKING IN SUPERS.

Mr. Sillsby—I would like to ask about early feeding to build up the colony.

Mr. Hilton—Begin to feed as soon as the bees begin to fly.

Mr. Hutchinson—I do not think that liquid feeding in the spring pays. A weak colony must not be stimulated in the spring; if this is done and a cold spell comes on then it's "good-by" to the colony.

Mr. Berg—I have had trouble with bees not working in the supers. I reduced the swarming fever by extracting—putting on a shallow super, then extracting the honey they stored in it, and afterward putting on sections. I put a new super underneath the one partly filled, being careful not to allow the upper one to become filled.

Mr. Hilton—I put an empty super underneath the one partly filled, and tier up just as soon as the super is ⅗ full. Bees will not travel by an empty super.

Mr. Coveyou—I think it pays to put supers on early, so as to get the early flow.

SWARMING.

Mr. Berg—When bees have nothing to do they want to swarm. I would rear colonies from queens that do not swarm, as my experience has been that I get more honey from bees that do not swarm.

Mr. Beecham—If you run for extracted honey your bees will not swarm, but they will if you run for comb honey.

Mr. Berg—I had one colony that did not swarm, and they stored from three to four supers of honey every year.

Mr. Kaufman—I have no trouble with the bees swarming, as I run for extracted honey.

Mr. Kitson—I have had three queens in one hive, each queen having a part of the hive.

Mr. Berg—It is very difficult to keep the bees from swarming when producing comb honey. People should not eat comb honey, as the wax is not good to eat; it is indigestible, and is not made to eat, but to hold honey. Extracted honey is the best to eat.

Mr. Hutchinson—Extracted honey is more easily pro-

duced, and the outlook is good for it at present The market is growing better all the time, and no bee-keeper who has kept a large number of colonies has made money unless he has run his bees for extracted honey.

Mr. Beecham—I would like to ask if the Hilton hive would stay packt.

Mr. Hilton—They are ready for use all the time—winter spring, or fall.

KEEPING ANTS OUT OF HIVES.

Mr. Beecham—I am bothered with ants.

Mr. Berg—I used tarred paper under the bottom of the hives to keep the ants out. I like the chaff hives the best, and ventilate them in warm weather, when the bees hang out.

Mr. Root—I use tar paper to keep the ants out of the hives.

Mr. Hilton—I use salt to keep the ants away. It will drive the ants away, but not the bees. I put the salt on the inside of the hives, on the bottom-board.

Mr. Kitson—I would like to know of something that will keep the grass and weeds down.

Answer—Salt will do this very well.

BEES AND FRUIT.

Mr. Root—What about that case near South Haven, Mich., where a peach-grower sued a bee-keeper for damages?

Mr. Rankin—The bee-keeper was sued by a peach-grower for damages to the amount of $200. The records of the Department of Agriculture at Washington, D. C., showed that bees will not attack fruit with a whole skin. From the evidence shown at the trial the fruit-grower withdrew his suit. It seems that some of the early peaches were affected with a peculiar rot which attackt the fruit before it was ripe, and the bees workt on this fruit.

Mr. Root—The same trouble occurred in the State of New York with the early cling-stone peaches. A suit came to trial there but the verdict was "no cause for action."

Mr. Berg—We have no bee-fighters in this part of the country. The fruit-growers want the bees near their fruit to fertilize the blossoms. Many af them spray their fruit-trees while in bloom, and some bee-keepers have lost half of their bees from this cause.

Mr. Hilton—A law was past while I was in the Legislature prohibiting fruit-growers from spraying trees while in bloom.

Mr. Kitson—I wish that law might be publisht in the bee-papers.

(Concluded next week.)

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

KINDNESS IN THE HOME.

I never could quite understand the biblical expression, "The small foxes destroy the vines." The fox has no love for the vineyard. The poultry-house attracts him far more. Neither vineyard nor grape is toothsome to Reynard, yet the truth taught in this small fox, and despoiled vine-field, is absolute. The true home is builded on real heart-sympathy. Unless each feels for the other, what will keep back the cruel sarcasm, the unfeeling word, the taunting laugh? And are not these, one and all, the little foxes?

I have a dear home in mind—father, mother, two daughters. It is a home where the bitter word, or thought that prompts it, was never in evidence. Paul's grand words were ever heeded in that splendid home—"Let each esteem the other better than himself." I mind me of a beautiful winter evening. I was the fifth one in that home circle for the time. We were all talking in merry mood, except Edith, who was trying to manage a great volume of pictures. Her small lap and the big book were a great misfit. Tho not impatient, she turned the pages with no slight effort and trouble. Without any break in our converse, the thoughtful father past thru the large wide-open folding doors to the next room, quietly reacht a suitable chair, and soon the myriad pictures were resting on this improvised book-stand, where it was easy to turn the great pages. It must have been a rich reward to that thoughtful father's heart, as his act was greeted with a sweet smile and hearty "Thank you." This was just one of a whole troop of kindly acts that so filled that home with sunshine that there was always some to spare, and we fortunate visitors ever carried a good quantity away when we past out of its doorway.

If Heaven ever does give a little piece of her very own precious self to this world, where all is not yet heavenly, it is in just such homes. The father never hears a wish from *any* of the loved ones, that his heart does not yearn to satisfy it. His best pleasure comes from the little planned surprises. Labor and effort that would vex and weary where no love sweetens the life, is now only and wholly pleasure. The mother-heart is even more alert. She is ever toucht and moved by any wave of pain or trouble, and irksome labor, and even painful effort, are coveted by her, if they bnt minister to the pleasures of the household. Christ raised the world,—is ever raising it to higher and higher thought and purpose—because he was willing and glad to give himself to it and for it. It is this Christ spirit of sacrifice that gilds the home. Children that breathe such an atmosphere must enjoy moral health in all its blessed fullness.

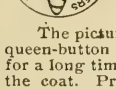
We have a cow in our airy barn and cleanly yard just back of it. She is of the pleasing fawn, so generally seen in the Jersey herd, and her bright eye has the nervous sprightliness of the breed. How pretty is the double ring of color that keeps guard above her mouth and nose. Gentle is she as the dove that coos hard by among the evergreens. She looks happy. I think she is. She ought to be. Good performance will hand over happiness if anything will. Our Jersey deals in good performance. For eight years she has given us a daily average of ten quarts of the most splendid milk. And such cream and butter—yellow as the golden-rod, and sweet as its nectar drops. Happiness is born of appreciation. Our Jersey never hears a harsh word. The milk-stool never serves but for a seat. When she sees me coming she greets me with an appreciative call which none other ever receives. She knows I give the care, and that I look carefully to her needs. There is a kind of good-fellowship between me and my Jersey that is not one-sided in its fruits. It is a delight to feed and milk her, which is done at just the same time each night and morning. It is a pleasure to plan for feeding her just what will be most appetizing and at the same time will push the white foam away to the very brim of the pail. Would the home circle be complete without such companions? Let us give the children such pets and beget in our children such love of these friends of the home, that the golden rule will be one of the trio whenever child and pet cow, horse or kitten are companions.

THE INFLUENCE OF HOUSE-PLANTS.

We may not all have costly paintings, fine statuary may be out of our reach, but there is a home adornment which costs but a trifle, and which transcends either picture or statue in real beauty. It is from God's hands, and so shows perfection in its fashioning. Our parlor now has a great sword-ferm just by the west window. Near it is a very costly painting—one of Hill's incomparable touches showing the marvelous Yosemite. Yet were one—painting or plant—to leave for alway, I would give up the picture. Yet this plant has only cost a trifle except Mrs. Cook's daily and loving ministrations, and these are not given grudgingly.

Close by at another window is the dainty, exquisite palm—cocus weddeliana. The one is ever reaching out its refining influence in its great health, wondrous vigor, rich color, and incomparable grace. When tired, it is so restful to sit beside it. To be peevish or irritable in its presence would seem all inharmony. The little palm so clean, delicate, and full of grace, is equally "a joy forever." Why are there so few of such gems in our homes? Our dining-room and hall have like treasures. Bereft of them the room would suffer indescribable loss.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and thus often leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we have been furnishing to bee-keepers for a long time. It has a pin on the underside to fasten to the coat. Price, by mail, 6 cents each; two for 10 cents; or six for 25 cents. Send all orders to the office of the American Bee Journal.

Maule's (*35 new things for 1901*)
Seed Catalogue

You should, by all means, have this **most modern catalogue of modern times.** It is brimful and overflowing with good things in vegetable, farm and flower seeds, flowering plants, fruits, bulbs, etc. **It contains 35 novelties in vegetables and flowers never offered before,** has 136 large pages, seven handsome colored plates and hundreds of illustrations. It gives practical, up-to-date cultural directions and offers many cash prizes. The first edition alone costs over $30,000, so while we send it free to all customers, we must ask others to send 10 cents for it, which amount they may deduct from their first order. You will make a mistake if you do not write to-day for this the Novelty Seed Book of the year. Address,

WM. HENRY MAULE, Philadelphia.

3D4t Please mention the Bee Journal.

Belgian Hares
CHEAP.
PEDIGREED AND COMMON STOCK.

Having bought a Job Lot of a neighbor and added to what I had, I must dispose of same to make room for my increase. They are mostly young—3 months and over—with a few bred Does. ALSO

Italian Queens
of last season's rearing, ready as soon as the weather is warm enough to send thru the mail. Write for prices. Address,

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HOME-SEEKERS' EXCURSIONS.

On the first and third Tuesdays of each month the Chicago, Milwaukee & St. Paul Railway will sell round-trip excursion tickets from Chicago, Milwaukee and other points on its line to a great many points in South Dakota, North Dakota, and other Western and Northwestern States at about one fare. Take a trip West and see the wonderful crops and what an amount of good land can be purchast for a little money. Further information as to rates, routes, prices of farm lands, etc., may be obtained by addressing F. A. Miller, General Passenger Agent, Chicago, Ill. C

GENERAL ITEMS

Prospects Good for the Coming Season.

I am a beginner in the bee-business, and have five colonies of bees in the cellar, which seem to be doing well. The prospects for the coming season are good, and I think we will have plenty of white clover.

I have taken the American Bee Journal one year, and think I could hardly do without it, as I get so much valuable information from it. C. M. LAWRENCE.

Blackhawk Co., Iowa, March 7.

Winter Report—Long-Tongued Bees.

The season of 1900 was not a very good one for honey in this locality. I have not had a paying crop for three years, but look for better things the coming season. The indications for a good crop of white clover were good up to March 3d, but it turned cold on the 4th, after having been warm for a few days, and melted all the snow, which leaves the clover in bad condition. Bees wintered outdoors have had a number of good flights during the winter, but those in the cellar are not doing very well, being more uneasy than usual; more than a third of the 70 colonies in the cellar are spotting their hives, and I think there are many more dead bees on the floor than in former winters. I have been keeping a record of the bees swept up since Jan. 16th, also of the number of hives spotted, and will report on it later.

I have some of the long-tongued bees .18 and .19 mm., the latter of the five-banded stock. I shall watch the tongue matter next summer, as I am prepared to measure the tongues. THEO. S. HURLEY.

Tama Co., Iowa, March 5.

Bees Wintering Well.

Bees are wintering well, are building up nicely now, and prospects are good for a honey crop; but sometimes we have dry weather that cuts us out. T. B. BOWNDS.

Milam Co., Texas, Feb. 4.

Hard Winter on Bees in New York State.

So far the 20th century has been the worst ever known for bees in this locality. There has been no weather for them to have a flight, and dnring the whole month of February it didn't thaw even once in the shade, with the thermometer from zero to 12 degrees below much of the time. The snow is from 4 to 10 feet deep in our roads, and the ice is from 18 to 22 inches thick on the ponds and lakes. Bees that survive will be of a hardy race—those wintering on the summer stands, at least. G. M. DOOLITTLE.

Onondaga Co., N. Y. March 6.

Report for the Past Three Seasons.

I am a man with a hard case of chronic beefever. Two years ago a friend gave me, late in July, a colony of bees in a box-hive. They cast a swarm the next day, which I hived successfully in a Langstroth hive. Late as it was, they gathered enough honey for winter, and the next summer I divided them. The colony in the box-hive swarmed when I was away from home, "and they never came back any more." I got 125 pounds of comb honey that year.

The next spring I purchast 12 colonies at $3.00 each; that was a poor year for honey in this locality, and I got 420 pounds of honey (nearly all of which was dark), and increast to 22 colonies. One of these was queenless in the spring, so I begun the last season with 21 colonies. White clover, basswood and buckwheat did nicely, but there was no fall flow to speak of. I secured 73 pounds per colony,

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always do well. 50 standard varieties. Handsomest poultry book of the season for 8c stamps. Full of money-making hints. My birds are winners.
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is a guarantee of excellence. The public appreciates this fact. In 4 years we sold 320,000 Electric Steel Wheels and 30,000 Electric Handy Wagons. We put wheels to fit any wagon. Illustrated Catalog FREE.
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For Sale Incubator, Brooders, Etc.
One 400-egg, Prairie State Incubator; one 20-foot Sectional Hot-Water Brooder; one 10-foot Sectional Hot-Water Brooder; and which Maule sells. From it we learn that the concern is one of the largest mail-order houses in the world, paying out during the last 5 years, for postage, $151,887.58. There are several valuable novelties in the catalog, the two leading ones being the "Success" tomato, which is pronounced to be the best market tomato introduced to the American farmer and gardener, and the Snow White Dent corn, said to be the grandest milling corn in the world. Other new varieties are Maule's First Early cabbage, the Model muskmelon, the Nameless cabbage, a new, unnamed French carrot, Imperial, Giant sugar-corn, Maule's unnamed potato, Excelsior Tree egg-plants, the Prodigious pea, and others. In fact, the largest list of new things we remember to have seen in any one catalog. It would be an educator in any family, and can be had free by our subscribers for the asking; others must send 10 cents for it. Publisht by Wm. Henry Maule, Philadelphia, Pa. Please mention American Bee Journal when writing.

spring count, and increast to 35. Some one robbed one of these, so now I have only 34. I winter the bees on the summer stands, and the only loss I have sustained so far is the one queenless colony last spring, and they are all in good condition now. I intend to keep increasing until I get enough.

The American Bee Journal is "boss of the job"—I do the work. C. H. BENSON.

Calhoun Co., Mich., Feb., 28.

Tin Cans vs. Barrels for Honey.

J. H. Martin says freight-rates on honey in tin cans cased, from California to the East, are $1.10 per 100 pounds; on honey in barrels $1.30 per 100 pounds. The editor is a tin-can man, and calmly says, "Comment is unnecessary." Now, ye editor, we won't comment, but listen:

Freight-rates on honey in tin cans cased, from Apalachicola River points in Florida to Boston, New York, Philadelphia, etc., are $1.35 per 100 pounds; on honey in barrels 78 *cents per 100 pounds.* Arguments in favor of barrels vs. tin cans for shipping honey now in order. Comments received.

M. W. SHEPHERD.

Franklin Co., Fla., March 4.

["Comment is unnecessary!"—EDITOR.]

Bees in Splendid Condition.

We have so far had a very pleasant winter—only three zero days in January and five in February. There were ten days in January and three in February when the bees could take flights; they are having a fine flight today, and every colony seems to be in the best of condition.

When we have another warm spell I intend to overhaul all of my colonies, and properly adjust them. WM. STOLLEY.

Hall Co., Nebr., Feb. 27.

Bees Wintering Nicely.

My bees have wintered nicely, and the prospects are better for a good crop of honey this season. W. W. MCNEAL.

Scioto Co., Ohio, March 19.

Prospects Bright—Controlling Swarming.

The rain is pouring down, and the country in this vicinity never lookt better. All the farmers are rejoicing over the prospects of a splendid season, and all is fine for the bee-keeper as well as the rest.

The last of next month I expect to requeen all of my colonies, and try to control swarming, if possible. Last year we had but 11 swarms, and I notice that one of the mother colonies is now very weak. I bought some queens from Texas last year, which were fine layers, and I managed the colonies so that no swarms issued after the prime swarm. A little while before swarming-time I requeen all colonies, giving them a young laying queen, so I am not very often troubled with swarms: tho sometimes they will swarm in spite of all that I can do. HARRY L. HEWITT.

San Joaquin Co., Calif., Feb. 23.

1900 a Poor Season.

Last season was a very poor one for bees here. There was not much for them to gather after July 1st, so a great many of them went into winter quarters with very little to live on thru the winter, and now I hear that over 60 percent are dead. Mine are all right so far; I fed them last fall, and expect to feed again in the spring. M. H. VOGT.

Nemaha Co., Kans., Feb. 25.

Bees Wintering Nicely—Good Report.

My 19 colonies of bees seem to be very quiet, and I think they are wintering nicely in the cellar. The bottom-boards are nailed tight to the bottoms of the hives, the entrances are open clear across, and the covers are shoved forward about two inches, with a cloth over

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at results in the poultry business. If you fail to raise the chicks, you simply have no business. The way to be absolutely sure about getting the chicks is to employ a Cyphers Incubator to your hatching. We guarantee them to last 10 years and to outhatch any incubator made. The best way to know about it is to read our 224 page (8x11 in.) book, "Profitable Poultry Keeping." Has 250 illustrations and covers the entire subject. We send it for 10 cents in stamps. Ask for book 56. Circulars mailed free. Address nearest office.

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Wanted to Buy 40 pounds of pure ITALIAN BEES, and 10 one-year-old PURE ITALIAN UNTESTED QUEENS —from the one making the best offer. BEES WANTED APRIL 1ST. Adddress,

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BEES WANTED!

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13A1t CHAS. D. HANDEL, SAVANNA, ILL.

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PAN AMERICAN EXPOSITION.

Nothing since the World's Fair, at Chicago, in 1893, has elicited the widespread interest that is manifest, all over the world, in the Pan-American Exposition, which is to be held in Buffalo, from May 1 to Nov. 1, 1901.

The purpose of the Exposition is to illustrate the progress of the countries of the Western Hemisphere during a century of wonderful achievements, and to bring together into closer relationship the people composing the many States, Territories and Countries of the three Americas. Acting under proper authority, the President of the United States has invited all the Republics and Colonies of the American Hemisphere to join in commemorating the close of the Nineteenth and beginning of the Twentieth Century, by holding this International Exposition on the Niagara Frontier.

For this important event, the Nickel Plate Road has issued an attractive, descriptive folder-pamphlet, elaborately illustrating the Pan-American Exposition, the buildings and grounds.

The Nickel Plate Road is the short line between Chicago and Buffalo, and affords competent train service from Chicago to Buffalo, New York City, Boston, and all points East, with trains of modern equipment, on which no extra fares are charged; also dining-car service of the highest order. It affords meals in its dining-cars on the individual club plan, ranging in price from 35 cents to $1.00.

Call on any ticket agent for Pan-American folder of the Nickel Plate Road, or address John Y. Calahan, General Agent, 111 Adams St., Chicago.

Parties desiring hotel or rooming accommodations at Buffalo or Niagara Falls, during any period of the Pan-American Exposition, are invited to apply by letter or otherwise to F. J. Moore, General Agent, 291 Main St., Buffalo, N. Y. No. 4—12A3t

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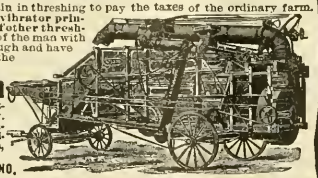
will save enough extra grain in threshing to pay the taxes of the ordinary farm. It combines the apron and vibrator principles and is as far ahead of other threshers as they are in advance of the man with a flail. They thresh fast enough and have capacity enough to suit the thresherman, and it



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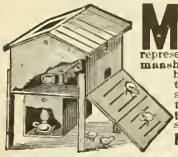

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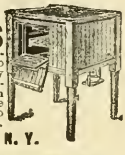
represent in their construction the **best material, best workmanship and finish** and the **best general plans** we know how to bring together in such a machine. For this reason we say to our customers that if they are not found exactly as represented and don't do all we claim for them **after a thorough trial**, it is no sale. Eleventh year on the market. We make **both Hot Water and Hot Air**—take your choice. So simple a child can run it. Send 2c. in stamps for **catalogue.**



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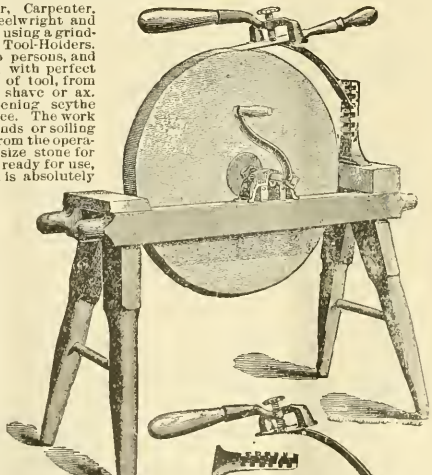
No farm is well-equipped unless it has a Tool-Holder. Pays for itself in a short time.



How to Use the Holder.

DIRECTIONS.—The Tool is fastened securely in the Holder by a set-screw and can be ground to any desired bevel by inserting the arm of the Holder into a higher or lower notch of the standard. While turning the crank with the right hand, the left rests on an steadies the Holder; the Tool is moved to the right or left across the stone, or examined while grinding, as readily and in the same way as if held in the hands.

For grinding **Round-Edge Tools,** the holes in the standard are used instead of the notches

GEORGE W. YORK & CO., 111 & 116 Erie St., Chicago, Ill.

the brood-frames. They generally winter well when packt in this way.

I had 10 colonies last spring, increast to 19, and secured about 750 pounds of comb honey. They went into winter quarters strong, and seemed to have plenty of good honey, so I am looking for a good harvest the coming season, as we have plenty of sweet and white clovers.

The "Old Reliable" is a regular Thursday visitor; long may it live!

W. A. HARRINGTON.

Boone Co., Ill., Feb. 25.

Bumble-Bees in Winter—Prospects Good.

For a number of years it has been, and still is, a mystery how bumble-bees get safely thru the winter. If some one will tell me how they get there I will tell where to find them. During the winter months a little round ball can be found underground, on the inside of which is a white, downy bumble-bee, appareutly about ready to emerge. About the time of wild gooseberry bloom the occupant comes forth and partakes of Nature's best. This round ball, so far as I can tell, is precisely the same as those formed by the tumble-bug.

Bees are winteriug splendidly, and the prospects are good for the coming season.

FRANK COVERDALE.

Jackson Co., Iowa, Feb. 25.

Bee-Keeping Experiences.

About six years ago I bought two colonies of black bees, paying $5 each for them in July, and from one of these I obtained a super of nice honey that season. After wintering them in the cellar, from whence they came in vigorous condition in the spring, they gave an increase of three colonies, and, if I remember rightly, three supers of nice white honey.

About two years ago I bought 11 more colonies from a bee-keeper, and as I wanted to have them in time to put into winter quarters, the arrangement was that he should take them to town, and should notify me when he did so. It was about five days after he sent me word before I could go after them, but when I fiually did so I found that they had been moved during a rain and sleet storm, aud placed in a wood-shed covered with some old rain-soakt carpet. The hives and carpet were an icy mess, as well as the bees. I hauled them home—a distance of 30 miles—placed them in the cellar, which was dry and well ventilated, and after raising the covers, and also the hives from the bottom-boards, in order to give them a chauce to thaw and dry, I left them to their fate. After three or four days I went down to see how they were gettiug on, aud found one colony a mass of wet, dead bees, and so they kept going until the whole 11 colonies were dead before it was time to put them outdoors in the spring. The next summer I bought 22 colonies, sold about 20, and obtained a few hundred pounds of honey.

Last spring I took 56 colonies from the cellar, and put the same number in again in the fall. Three dwindled away, leaving only 53

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to

Prof. A. J. Cook, Claremont, Cal.,

FOR HIS

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

BEE-SUPPLIES!

Root's Goods at Root's Prices

POUDER'S HONEY-JARS and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. WALTER S. POUDER, 512 Mass. Ave., INDIANAPOLIS, IND.

in condition for business. In May I bought 10 colonies at $5 per colony. I received and accepted the appointment as census enumerator, and was thus compelled to be away from home during the month of June. My son, 13 years of age, with the assistance of the hired man, caring for the swarms, of which there were only 12 or 15 during the entire month. During July there was a contagion of the swarming-fever, and altho we had tried to prevent swarming by giving more room, cutting out queen-cells, giving ventilation, and using every method we had ever heard of, about 70 swarms emerged, which we doubled, thus increasing our number only about 30. We secured over 1,800 pounds of honey, 1,000 pounds being comb. The total crop was worth $232, figuring what we consumed and kept for winter use at the same price as what we sold. We put 100 colonies into the cellar, having bought enough to make that number. Our cellar is well ventilated, having an open chimney extending from it. Some of the swarms were very light when put in, and we placed them at the top, putting supers over them containing light-weight sections. Yesterday I went into the cellar and found a lot of dead and crawling bees on the cellar floor, and a very uneasy condition prevailing. I would like to know the cause of this. Have some of the colonies starved out, or is the cellar too warm? Not having a thermometer I can not give the temperature, but I judge it is about 45 or 50 degrees. H. W. CORNELISON.

Washburn Co., Wis., Feb. 16.

CONVENTION NOTICES.

Chicago.—The next regular meeting of the Chicago Bee-Keepers' Association will be held Thursday, April 4th, at the Briggs House, Chicago, from 1 p.m. until those present get tired and quit, which is usually 9:30 p.m. A feature of the meetings lately has been for all present to dine at 5:30 in a company. All are urged to be present and help us all have a good, old-fashioned time. HERMAN F. MOORE, Sec.

Utah.—The Utah Bee-Keepers' Association will hold its regular spring meeting April 5th, at 10 o'clock a.m., in the City and County Building at Salt Lake City. All are cordially invited. We expect to get out a treatise or pamphlet, the object of which will be to give the best and quickest method to discover, cure, and prevent disease among the bees, and the best way to protect them from their enemies. It will also contain other matter for the benefit of the industry, including our State law. We will be pleased to receive communications from any of our bee-keepers upon any subject along the lines indicated. Address, Pres. E. S. Lovesy, Salt Lake City, Utah, or J. B. FAGG, Sec.

East Mill Creek, Utah.

TWENTY MILLIONS IN GOLD

From Alaska during the year 1900.

Five millions of this came from the Nome district. Government officials estimate the output from the Nome district will be doubled the coming season. The Bluestone, Kougarok and Pilgrim rivers have been found very rich. There is hardly a creek from Port Clarence to Norton Sound in which the precious metal is not found, and hundreds of creeks unprospected. A rich strike has been made on the Yellow river, a tributary of the Kuskokwim.

For full information regarding routes, steamship accommodations and rates to all points in Alaska, address C. N. Souther, General Agent, Passenger Department, C. M. & St. P. R'y, 95 Adams Street, Chicago. 13A3t

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Publisht weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,

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Please mention Bee Journal when writing

Tennessee Queens!

Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3¼ miles apart, and mated to select drones, $1.50 each; untested warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and but few within 5 miles. 28 years' experience. Discount on large orders. Contracts with dealers a specialty. JOHN M. DAVIS,

6A26t Spring Hill, Tenn.

Please mention Bee Journal when writing

Worth $25.—B. H. Greider, the well-known poultry-breeder of Florin, Pa., whose card will be found elsewhere in this issue, recently received a letter from a customer who enclosed stamps for several copies of Mr. Greider's catalog for his friends, saying that the copy he had received was worth fully $25 to him. It is a most valuable book, handsomely illustrated, and containing full descriptions of all the leading varieties of poultry. Mr. Greider's farm at Florin is one of the best stockt poultry establishments in the country. He has been a careful student of advanced methods, and by careful breeding has produced as fine a lot of fowls as will be found anywhere. Moreover, having a large farm, his fowls are not coopt up in little pens, but have the range necessary to health and vigor, and the production of fertile eggs which hatch chicks that live and grow. It is for this reason that Mr. Greider's customers always are so well satisfied with their purchases from him. Send 8 cents for his valuable book. It is full of money-making hints. Circulars free. Please mention the American Bee Journal when writing.

Rocky Mountain Bee-Plant Seed!

(*Cleome integrifolia.*)

...FREE AS A PREMIUM...

The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows from two to three feet in hight and bears large, clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us ONE NEW subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.

GEORGE W. YORK & CO.

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Good Instruments.

Don't confuse these instruments with cheap "bargain counter" offers. They are high grade, fully guaranteed, instruments FOR MUSICIANS.

VIOLIN—Amati model, choice of 3 colors, dark brown, light red or amber, full ebony trimmed, Brazil wood bow, pearl slide, full leather bound canvas case, extra set of strings, rosin, etc., worth $20. My Price $6.25

GUITAR—Solid Rosewood, standard size, neatly inlaid, Spanish cedar neck, celluloid front, ebony finger board, best quality patent head. Full leather bound canvas case. Regular price $18. My Price $7.85.

MANDOLIN—Solid Rosewood, 19 ribs; celluloid front; veneered head piece, handsomely inlaid. Elegant French Polish. Patent head, engraved tail-piece. Worth $15. My Price, Only $7, with leather bound case, extra set of strings and tortoise pick. Send for circulars of high grade musical instruments of all kinds.

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The Emerson Binder.

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,

118 Michigan Street, CHICAGO, ILL

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, March 20.—The choice grades of white comb honey sell at 16 cents, with supply about equal to the demand; all other grades are slow of sale at the following range of prices: Fair grades of white, 14@15c; best ambers, 12@13c; mixt colors, 10@11c; buckwheat, 9@10c. Extracted, white, ranges from 7@8c; amber, 6½@7½c; buckwheat, 5½@6½c. All of the extracted is governed by quality and flavor in the range of prices, the lowest figures in either of the colors applies to the sour, or off-flavored, and unripened. Beeswax, 30c.

R. A. BURNETT & Co.

NEW YORK, March 19.—Our market is virtually bare of comb honey, and there is a fair demand for all grades. Fancy white is still selling readily at from 15@16c; No. 1 white at from 13@14c; amber at from 12@13c; buckwheat, 10@11c, according to quality and style of package.

As to extracted, the market is quiet and inactive, and a certain amount will have to be carried over again. Prices are declining somewhat, and if the honey is not moved in large lots, concessions will have to be made. We quote: California white, 7@7½c; light amber, 6½@7c; other grades and Southern, 65@75c per gallon. Beeswax very firm at 28@28½c, and for exceptionally fine yellow, 29c.

HILDRETH & SEGELKEN.

BUFFALO, March 21.—Much better demand for fancy comb at 15@16c; extras, 17c; common, dark, etc., 9@10 to 14c. Extracted, 6@8c, and never in much demand. BATTERSON & Co.

DETROIT, Mar. 21—Fancy white comb, 14@15c; No. 1, 13@14c; dark and amber, 10@12c. Extracted, white, 6½@7c; amber and dark, 5@6c. Beeswax, 27@28c. M. H. HUNT & SON.

CINCINNATI, March 21—The demand for comb honey is nearly over, the stock of it also well cleaned up. Fancy white brings yet 16c. Extracted is in fair demand; dark sells for 5½c; better grades bring 6@7½c; fancy white clover from 8½@9c. C. H. W. WEBER.

KANSAS CITY, Mar. 23.—Receipts light; demand normal at steady prices. Fancy white comb, 15@16c; no amber on market. Extracted, 8@9c. Beeswax scarce, steady demand, 25@30c.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. CLEMONS & Co.

ALBANY, N. Y., March 23.—Honey market is slow on all grades of comb honey. Extracted, white, 7@8c; dark, 5@5½c. H. R. WRIGHT.

BOSTON, March 21.—Fancy No. 1 white in cartons, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. Absolutely no call for dark honey this year. Extracted, white, 8@8½c; light amber, 7½@8c. Beeswax, 27c.

BLAKE, SCOTT & LEE.

SAN FRANCISCO, Feb. 6.—White comb 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber, 6¾@7¼c; amber, 5¾@6½c. Beeswax, 26@28c.

Considering the light output of honey last spring from California apiaries, present offerings are of tolerably liberal volume and are mostly of amber grades. The market is slow at the quotations. It is reported on good authority that adulterated and imitation honey is being dealt out in considerable quantity, which accounts in a great measure for the very limited business doing in the pure article.

—DO YOU WANT A—

High Grade of Italian Queens

OR A CHOICE STRAWBERRY?

Send for descriptive price-list to

D. J. BLOCHER, Pearl City, Ill.

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1901—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog.

M. H. HUNT & SON, Bell Branch, Wayne Co., Mich.

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FREE FOR A MONTH....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.

Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

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Hives, Extractors

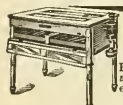
OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.



200-Egg Incubator for $12.00

Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.
GEO. H. STAHL, Quincy, Ill.

46A25t Please mention the [illegible]

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	70c	$1.20	$2.75	$5.00
Sweet Clover (yellow)	$1.50	2.80	6.25	12.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	90c	1.70	3.75	7.00
White Clover	90c	1.70	4.00	7.50
Alfalfa Clover	80c	1.40	3.25	6.00
Japanese Buckwheat	30c	.50	1.00	1.60

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.

Wanted A MAN OF PRACTICAL EXPERIENCE AND ABILITY to care for 150 to 200 colonies of bees. Address,

S. J. DUNNE,
165 S. Forest Ave.,
11Atf RIVER FOREST, COOK CO., ILL.

I ARISE

To say to the readers of the BEE JOURNAL that

DOOLITTLE...

has concluded to sell QUEENS in their season during 1901, at the following prices:

1 Untested Queen	$1.00
3 Untested Queens	2.25
1 Tested Queen	1.25
3 Tested Queens	3.00
1 select tested queen	1.50
3 " " Queens	4.00
Select Tested Queen, last year's rearing	2.50
Extra selected breeding, the very best	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

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24th Year Dadant's Foundation. 24th Year

We guarantee satisfaction. ✲✲

What more can anybody do? BEAUTY PURITY, FIRMNESS, No SAGGING, No LOSS. PATENT WEED-PROCESS SHEETING.

Why does it sell so well? ✲✲

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Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

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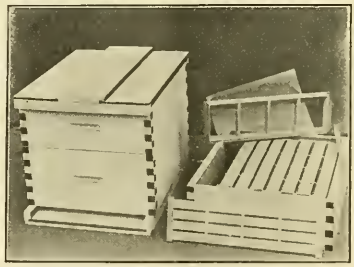
Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

LANGSTROTH on the HONEY-BEE—Revised
The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

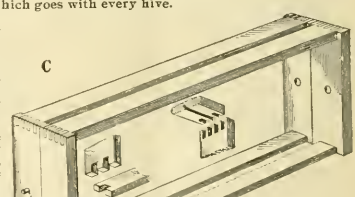
The Danzenbaker Hive.



THIS HIVE is rapidly gaining favor, especially in the Eastern States, where tall sections and closed-end frames are used to a considerable extent; and within the last year or so the Danzenbaker system has been working its way into California, Oregon, and even into Cuba. At the Paris Exposition the hive was awarded a gold medal, and at some of the honey exhibits in this country the comb honey from it has carried off the first prize. Some of the finest honey we have ever seen was produced in Danzenbaker sections; and in the opinion of those who have given the hive and system an extended trial, there is nothing to equal it for the production of a fine article of comb honey. Indeed, in some markets comb honey in Danz. sections commands one and sometimes two cents more per pound than other fancy honey.

Mr. Danzenbaker has long been an advocate of warm supers and warm hives; for he has always insisted that, for the production of comb honey, the super and hive must be warm in order to do the best work in wax-building. To a very great extent the Danzenbaker hive is double-walled; and the sections in the super are especially protected by a special paraffine mat which goes with every hive.

The brood-chamber itself has the same dimensions as the regular 10-frame Dovetailed Langstroth hive, except that it is shallow; that is, it takes 10 closed-end brood-frames 7½ inches deep and 17 inches long. Each brood-frame is supported by a pivot in the center of the end-bars, so that it may be readily reversed. These brood-frames retain all the advantages of frames peculiar to this class; viz., being reversible, they insure the building of combs to the bottom-bar; as there is no opportunities for air-currents around the ends of the frames, combs, as a rule, are built clear out to the end-bars. This one feature makes them warmer for winter. When a division-board is used on each side we have, practically, a dead-air space around the ends and sides of the brood-nest.



The Danz. brood-nest has the same capacity as the 8-frame Dov. hive—a capacity that has generally been recognized as the best for the production of comb honey. But Mr. Danzenbaker has gone further by making his brood-nest shallower and wider—increasing the amount of surface for the super, and bringing the brood itself—a feature which many consider important—closer to the surplus.

The Danzenbaker brood-chamber can be used with any of our 10-frame supers, either comb or extracted; with any of the 10-frame covers, bottoms, or hive-stands, or with the 10-frame Jumbo hive. There are four patents on the Danz. hives and fixtures.

NOTICE.—The Danzenbaker hive is not made in the 8-frame widths.

THE A. I. ROOT CO., Medina, Ohio.

☞ **GEORGE W. YORK & CO.,** 144 & 146 Erie Street, CHICAGO, ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., APRIL 4, 1901.

FORTY-FIRST YEAR No. 14.

WEEKLY

APRIL

BY EUGENE SECOR.

Did you hear the robin piping,
Calling for his mate?
He has just returned from Southland—
But, perhaps, she's late.
He tells us the plum-trees will soon be in white
To witness his vows and the bird marriage-rite.

Did you see the prairie crocus
Held in childish fist
Tight as lover holds his sweetheart
At the evening tryst?
This brave little flower opens early to fling
Its largess of gold on the honey-bee's wing.

Maples blush with ruddy blossoms
E'er the frost is gone;
And the showy golden willow
Brightens on the lawn.
The barn-fowls are noisy, proclaiming each day
The debt which they owe and are trying to pay.

Intersperst with cheery sunshine
Weeping clouds appear,
But, together, they encourage
Life with hope and cheer.
"The winter is past," every sleeping bud cries,
And seeds burst their caskets, determined to rise.

THE AMERICAN BEE JOURNAL.

PUBLISHT WEEKLY BY

GEORGE W. YORK & CO.

144 & 146 Erie St., Chicago, Ill.

Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50c a year extra for postage. Sample copy free.

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Advertising Rates will be given upon application.

Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey commissionmen.

EXECUTIVE COMMITTEE.

ERNEST R. ROOT, President.
R. C. AIKIN, Vice-President.
DR. A. B. MASON, Secretary, Toledo, Ohio.

EUGENE SECOR, General Manager and Treasurer, Forest City, Iowa.

MEMBERSHIP DUES, $1.00 a year.

Rocky Mountain Bee-Plant Seed!

(*Cleome integrifolia.*)

...FREE AS A PREMIUM...

The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows fromtwo to three feet in hight and bears large, clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

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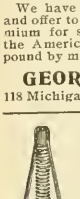


Queen-Clipping Device Free....

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premimn for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & COMPANY,
Chicago, Ill.

Long-Tongued Bees

ARE DEMANDED NOW.

ONE Untested Italian Queen FREE as a Premium for sending us TWO new subscribers to the American Bee Journal for one year (with $2); or, one Tested Queen free as a premium for sending us FOUR new subscribers (with $4.00.)

We have arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us the coming season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

Orders for these fine, "long-reach" queens will be filled in rotation—"first come, first served"—beginning about June 10th. It is expected that orders can be filled quite promptly, as a large number of nuclei will be run. All queens will be guaranteed to arrive in good condition, and all will be clipt, unless otherwise ordered.

CASH PRICES of these fine queens will be as follows: Untested, $1.00 each; Tested, $2.00 each. Send all orders to

GEORGE W. YORK & CO.
144 & 146 Erie St., CHICAGO, ILL.

28 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 28 cents a pound—CASH—for best yellow, upon its receipt, or 30 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., CHICAGO.

Best White Alfalfa or Basswood Extracted Honey

ALL IN 60-POUND TIN CANS.

ALFALFA HONEY.....

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.

BASSWOOD HONEY.....

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms in Wisconsin. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

A sample of either, by mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. The cans are boxt.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

Address,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., APRIL 4, 1901. No. 14.

Editorial Comments.

Freight-Rate on Comb Honey.—We understand that there is to be an attempt made to raise the freight-rate on comb honey, one railroad company desiring to make the rating *double first-class* on comb honey in boxes with glass fronts, *whether the glass is exposed or not.* The present rating is $1\frac{1}{2}$ times 1st class. The proposed raise is "daubing it on a little too thick," we think, and the bee-men, the commission men, and the bee-keepers'-supply men should line up and see if something can not be done to prevent such a prohibitory rating. Really, such a rating would well-nigh strangle the honey-business from a shipper's standpoint, especially on long hauls. For instance, the rate from California points to Chicago would be 86.00 per 100 pounds, making it impossible for Western producers to market their comb honey in the Central or Eastern States. Such an advance in freight would injure the bee-men by making their business unprofitable, the commission men by greatly decreasing consignments, and the supply men, directly, by tending to drive the glass-front shipping-case out of the market; and indirectly by making the honey-business so unprofitable as to greatly curtail the demand for all lines of supplies.

Of course, the rating of "1st class" on shipments in close boxes will still remain, but that will be of little value from the fact that honey can not be exposed for sale in such boxes, which would necessitate shipping in one kind of a box, and repacking in another kind at destination.

We consider the proposed move a great injustice to a class of men who deserve better treatment. There should be sent in at once earnest protests from every one interested, as far as possible. Especially can the large commission houses present the matter of injury to shipments in glass-front boxes as compared with that to close packages, and an exhibit of that kind would have considerable weight, especially as it can be shown that the glass-front box is the safer package, on account of the contents being in plain sight, thus insuring safe handling.

The next meeting of the Western Classification Committee will be held May 7th, at Hotel del Monte, Monterey, Calif., so that petitions and protests against the threatened raise in freight-rate on honey should be forwarded at once to Mr. J. T. Ripley, chairman Western Classification Committee, Room 604 Great Northern Bldg., Chicago, Ill.

Eating Honey and Butter.—A Stray Straw in Gleanings in Bee-Culture reads thus: "Dr. Pauchet, La Nature says, replaces cod-liver oil with butyroniel, composed of two parts of fresh butter and one part of honey, beaten together. He says it is more readily accepted by children—a thing not hard to believe."

Editor Root then follows with this comment: "I remember my mother used to give me honey and butter when I had a cold. If there is any virtue in such a combination it might be a good idea for us parents to give our children bread and butter and honey, and lots of it. 'Honey and butter shall he eat,' the good Book says, and its advice is always good."

This reminds us that a certain family of our acquaintance informed us recently that they had eaten more honey than usual the past winter, and had been much healthier in consequence thereof. We haven't the least doubt that if more whole families would consume more honey in their regular daily diet they would all feel much better in every way.

Granulated Sugar and Glucose.—Mr. Thos. Wm. Cowan, editor of the British Bee Journal, but now residing in California, sent us the following communication early in January, but owing to our "deluge," and also moving to our new location, it was overlookt until a week or two ago:

EDITOR AMERICAN BEE JOURNAL:—On page 810 of the American Bee Journal for 1900, alluding to granulated sugar, Mr. E. E. Hasty endeavors to explain what he thinks I mean when I say "much of the granulated sugar of commerce is adulterated with glucose." Altho as a rule I do not notice criticisms, recognizing the right of every one to his opinions, and do not care to be drawn into any controversy respecting such criticisms, yet in this case, having a pleasant recollection of a personal visit to and talk with Mr. Hasty, I think it is due in courtesy to him to explain that I meant exactly what I said, because glucose is found in commerce both in the liquid and solid state.

On page 760 (1900) it will be found that, in explaining how glucose was made, I said, "The solutions are evaporated to a syrup consistency and sent into the market under the names of glucose, corn syrup; or to dryness, the solid product being known in commerce as grape-sugar." It is this dry glucose or grape-sugar that is used to adulterate granulated sugar, "the very dry white sugar" which Mr. Hasty alludes to. It is difficult to detect the adulteration by simply looking at the sugar. Raw or brown sugar is similarly adulterated. The presence of glucose when mixt with raw or refined sugars may be generally known by paying attention to the following points:

1. Sugars mixt with powdered or granulated corn glucose, on solution in water invariably leave white particles of glucose undissolved.

2. On submitting a commercial sugar containing glucose to the polariscope test, it will be seen that the reading does not remain constant, but gradually becomes less until a point is reacht when the diminution ceases altogether. If the solution is observed immediately after preparation as little as three to five percent of glucose may thus be detected.

There are other methods of analysis, but they are only suited to the chemist's laboratory, and would not interest your readers. I can assure Mr. Hasty that it is not at all uncommon to find both raw sugar and refined dry granulated sugar adulterated with glucose.

With respect to pollen in honey, I can only say that in the large number of samples that I have examined, more or less pollen was found in every instance, and the presence of pollen-grains has frequently assisted me to determine with accuracy the source of the product.

If, and when, I have the time and inclination I should like to criticise Prof. Cook's criticisms of my book, "The Honey-Bee," but altho I have a personal regard for him, I do not find that he has adduced anything which would cause me to alter any of my views exprest in that book. Yours truly,

THOS. WM. COWAN.

To Drive Ants from the Lawn.—Fine coal ashes sprinkled about the burrows of ants will cause them to leave. Ashes may be used on the lawn without injury to the grass. Sifted ashes are best, but those fresh from the stove, shaken from the stove-shovel, will answer the purpose very well.—April Ladies' Home Journal.

Shall Bees Be Taxt? is a question that arises every now and then. Opinions differ. If one were to judge from what appears in the bee-papers on the subject, one would be likely to conclude that the great mass of bee-keepers were of the opinion that bees should not be taxt; because those who hold such opinion have a feeling that they are wronged by such taxation, and one who feels himself wronged is more likely to speak out than one who is satisfied with things as they are. One of the strongest presentations of that side of the case appeared in the Progressive Bee-Keeper under the signature of D. L. Tracy. Mr. Tracy takes the ground that they should not be taxt unless the tax be refunded in years of failure. In such years an assessor can not fairly value a colony of bees. But he rightly says that such a proviso would lead to great complication; hence, bees should not be taxt at all.

Unfortunately this reasoning would apply to other things as well as to bees. A farmer may have a failure of crops, but he is expected

to pay his taxes all the same. If his bees are to be exempt because in some years they make no return, then his swine should be forever exempt because some years the cholera strikes them.

Those who believe with Mr. Tracy probably reason something like this: "There are years in which my bees not only pay me no profit, but are an actual expense, so that I would be better off at the end of the year if I had no bees. Manifestly I should not pay taxes on a thing of no value, and as the failure may occur any year, the easy way out of the difficulty is to have the bees exempt from taxation every year."

This has a somewhat reasonable look on the face of it, but one may imagine an assessor replying something like this: "Everything is assest according to its valuation, not according to its profitableness to the owner."

"But," says the bee-keeper, "this year if the bees yield no harvest they are of no value, and should not be taxt."

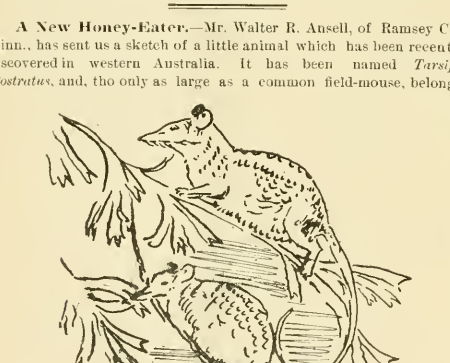
"At what price do you sell colonies of bees in years of failure?"

"Why, just about the same as other years."

"Then they have a marketable value, and rightly, because even altho they may yield no return you do not give them away for nothing, holding them of value because of the possibility of what they may do in the future. And you seem to lose sight of the fact that you already have reduction of taxes because of the uncertain character of your bees. If you could count on getting each year straight along more than $10 from each colony, as you did one year, then bees would readily sell for a much higher price than now—perhaps three times as much—and your tax on them would be three times as much. But the very fact that bees are uncertain property brings down their value, and so their price. If you insist that no tax should be paid in a year of failure, then in a good year when the profit on a colony of bees is as much as the profit on a cow, you ought to be willing to pay cow-tax on bees. When you are ready to give away bees for nothing, it will be time for you to say they have no value."

Mr. Tracy closes by saying, "I believe that all property should be taxt. But I do not believe from my experience that it would be right or justice to call bees taxable property." Which is equivalent to saying that bees are not property, or else there is a direct contradiction.

A New Honey-Eater.—Mr. Walter R. Ansell, of Ramsey Co., Minn., has sent us a sketch of a little animal which has been recently discovered in western Australia. It has been named *Tarsipes Rostratus*, and, tho only as large as a common field-mouse, belongs,



like the kangaroo, to the Marsupial order—animals that carry their young in a pouch. It enjoys the unique distiuction amongst mammalia of obtaining its living exclusively by robbing flowers of their nectar with its long, thread-like tongue.

We have reproduced our new honey-loving friend for the benefit of our readers.

"The Best Article that was ever publisht in the Review it would be difficult to point out. I doubt, however, if very many better ones have been publisht than the one by S. D. Chapman, that appears in this issue. It is somewhat lengthy, but not more so than is warranted by the magnitude of the subject. There is more in that article than appears on the surface. The exact methods described may not be suited to many readers, but the thoroness with which the writer has studied out the conditions of his locality, and devised a system of management adapted to those conditions, furnishes an encouraging example for us to follow."

This is what Editor Hutchinson says of the article by Mr. S. D. Chapman on page 215 of this number of the Bee Journal.

The Weekly Budget.

To Our Delinquent Subscribers.—We often wish we could sit down in the homes of all our subscribers who are in arrears on their subscription to the Bee Journal, and try to explain to them that in all fairness to us and to themselves they ought to do their best to pay at least all arrearages, and if possible a year in advance. It should be remembered that our expenses in connection with issuing this journal are regular, and must be met. We can not put off our paper house, our printer, or our employees, with promises—they all must have their money. Hence, it is absolutely necessary that we should have the cash due on subscriptions in order to meet the necessary and constant expenses from week to week.

After we have favored several thousand subscribers by sending to them the Bee Journal for over two to four years without receiving any remittance, nor any acknowledgement of our requests to them to pay their subscriptions, we feel that we are justified should we decide to take some other means in order to hear from them. While we would like to have every bee-keeper read the American Bee Journal regularly, we would not willingly and knowingly continue to send it to any one who does not want it. But we must insist that all arrearages, if any, be paid. We shouldn't think that any one would wish to discontinue a paper of any kind without being clear on the publisher's books.

So many of us are careless about these matters. Of course, no one really intends never to pay his subscription. But do you know that when several thousand subscribers owe for say an average of three years at only one dollar, it amounts to a very large sum? And is it right that the publisher, who has faithfully furnisht the paper right along, should be compelled to go without that much-needed and very large sum, which belongs to him, and which could just as well as not be paid? for it means only a few dollars to each one who owes, but in the aggregate, to the publisher, it means the difference between a small profit and a big loss!

Reader, are you in arrears on your subscription to the American Bee Journal, or to any other paper that you are reading? If so, will you not do the proper thing, and "pay that thou owest?"

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The Hunt for Errors in magazines, or in any publication, for that matter, is an interesting and profitable investment of time. Every article that is publisht in the Ladies' Home Journal, for instance, is read at least four times in manuscript form, and all statements of fact verified before it goes to the printer. Then it is read and revised by the proof-readers; goes back to the author for his revision; is re-read by the editors three or more times, at different stages; and again by the proof-readers possibly half a dozen times additional. Thus, each article is read at least 15 and often 20 times after leaving the author's hands until it reaches the public eye. But with all this unremitting vigilance, errors of the most obvious kind occasionally escape observation until perhaps the final reading, but it is rare, indeed, that an inaccuracy hides itself in the pages securely enough to go thru that magazine's edition.

The improvement in the proof-reading of most of the bee-papers is encouraging. Yet there is still room for the exercise of more care along this line in nearly all the periodicals devoted to bee-keeping, the old American Bee Journal included.

* * * * *

The Rocky Mountain Bee Journal is the name of the latest claimant to the patronage of the bee-keeping public. It purports to be publisht "For Colorado and the Great Inter-Mountain Region." It is to be issued monthly, is neatly printed, and presents a good general appearance.

Convention Proceedings.

Report of the Michigan State Convention.

BY WM. G. VOORHEIS.

(Continued from page 203.)

BEE-PARALYSIS—SPRING DWINDLING.

Mr. Berg—What are the symptoms of bee-paralysis and what is the remedy? Can it be cured without changing the queen?

Mr. Root—There are different kinds of bee-paralysis, or it acts differently in different locations.

Mr. Berg—The bees look shiny, and seem to be shaking or trembling.

Mr. Root—In the South the disease is worse than in the North. When the queen is taken away they do better.

Mr. Kitson—I think my bees had that disease early in the spring.

Mr. Hilton—It is the result of inflammation.

Mr. Chapman—I have not been bothered with it in my apiary.

Mr. Root—The bees that are not affected will put the sick ones out of the hive.

Mr. Rankin—I have had no experience with this disease. I have tried to introdnce it among bees, as an experiment, with queens and combs sent from the South, but did not succeed. I do not think that bee-paralysis will do much harm so far north.

Mr. Hutchinson—Nothing has been said about it for the last two years.

Mr. Kitson—I know what spring dwindling is; I lost one colony by it.

Mr. Kaufman—I lost a dozen colonies in that way. I cured them by changing them around, putting them in the place of healthy colonies.

Mr. Kirkpatrick—I do not think that the young bees have it; only the old ones are affected.

Mr. Root—When the bees begin to store new honey the disease disappears.

FOUL BROOD.

Mr. Hilton—I have a letter from C. A. Huff about getting a law past against foul brood.

George Jaquays—I got colonies with foul brood from East Jordan; it destroyed every colony I had but one.

Mr. Kirkpatrick—Four years ago in the spring I shipt 125 colonies of bees from Indiana. I also took 67 colonies from a bee-keeper in this State to keep on shares. These last had been wintered in pits; I took them home, and afterward found that 37 of them had foul brood. I went all over the neighborhood but found no foul brood anywhere except in my apiary, and I burned all colonies thus affected. The next year I bought more colonies, but found that they also had foul brood, and I destroyed them. I lost 220 colonies all together.

Mr. Rankin—I do not think it necessary to destroy the colonies by burning them. The disease can be cured, but we must be protected from the bee-keepers who are careless to regard it. I think a law should be past similar to the one in effect in Wisconsin. They have the disease under control in that State, and I think that when colonies are affected with foul brood and ordered destroyed by the foul-brood inspector, the bee-keeper should be compensated, as live stock is compensated for. We ought to have a State inspector. When I find a colony affected with foul brood I mark the hive with a capital "B," and put a ring around the letter. Foul-brood germs can endure a great amount of dry heat, but can not live thru a very high temperature of moist heat. My cure for the disease is as follows: Scrape the hives—burning the scrapings—then swab out the inside with kerosene. Set the brood-chambers one above another, then set fire to them, and when the blaze comes out of the top put on a cover to smother the fire. Next scald the hives, frames, etc, with a solution of corrosive sublimate—½ ounce of corrosive sublimate to one gallon of water, putting them all into a tank of this solution, and thoroly washing them in it. Carbolic acid can be used, if preferred. Care must be taken to see that no honey gets on the ground, as there is danger of other bees getting it. It is well to soak the hives, etc., about 30 minutes in this solution, and be sure to burn the brood. The combs can be melted into wax, and if there should be any honey in the combs, it can be extracted, and heating it will destroy the germs.

A motion was made and carried that Mr. Rankin, Mr. Bingham, and Mr. Hilton, act as a committee before the Legislature, to get the foul-brood law past. The committee must have the help of the bee-keepers in this State, and each one was requested to write a letter to his or her representative or State senator, asking them to support the passage of this law.

LARGE YIELDS OF HONEY.

Mr. Root—I understand that Mrs. Jackson had an extraordinary yield of honey about two years, and I wish that she would tell us about it.

Mrs. Jackson—I had one colony that did not swarm which filled 10 supers of 24 sections each. The total yield from 18 colonies, spring count, was 2700 pounds and an increase of 19 colonies. There were no other bees near me. There was a heavy flow of honey all the season, and the bees were in the best of condition.

Mr. Kaufman—During a basswood flow I had a colony bring in as high as 22½ pounds of honey in one day.

Mr. Kirkpatrick—I used to keep bees in Ohio, but get heavier yields of honey here than I did there. Last year I got 93 pounds of raspberry honey per colony, and this year I got 104 pounds per colony. I always get ready for the raspberry flow.

Mr. Chapman—I always get a good honey-flow from raspberry bloom.

SECOND DAY—BUILDING UP COLONIES IN SPRING.

Mr. Berg—How shall we build up colonies in the spring?

Mr. Root—Tuck them up warm.

Mr. Berg—As I have studied it I must have chaff hives. I do not think that bees wintered in the cellar do as well as those wintered in chaff hives. Bees must be in warm quarters with lots of honey, and must have a queen not more than two years old. During warm spells in winter bees wintered in chaff-hives have a chance for a flight. They also begin to breed early in the spring.

Mr. Chapman—I have had experience with both single-walled and chaff-hives, and I always winter my bees in the cellar, and lose only about 1 percent. I requeen every year. I use the common Langstroth 8-frame hive, and put empty cases under the one filled with brood, using the queen-excluder when I commence to tier up. Last season my 4-story colonies averaged over 100 pounds per colony. I allow each colony to rear its own queen, but as some of these are queenless sometimes I keep some colonies for rearing queens. I have had some experience with spring work, and have not lost many colonies from chilled brood. My honey is from raspberry, clover and basswood. I kill all queens at the beginning of the basswood flow, as I want young bees for wintering.

Mr. Hilton—Mr. Chapman must be very familiar with his honey-flow.

Mr. Chapman—I put all my light colonies in a row, and see that they have honey enough to last them until the honey-flow commences. I have very little swarming, and produce only extracted honey.

Mr. Berg—I should prefer to have the bees strong before fruit-bloom.

Mr. Hilton—I could not follow Mr. Chapman's plan for comb honey. One must know his location and know how to work his colonies. Mr. Chapman has two seasons for brood-rearing—one early in the spring and one in the fall. Those reared in the fall are the ones to be put into winter quarters. Bees can not winter on unripe honey, and every bee-keeper must know his location in order to succeed. What method would do for one locality would not do for another.

Mr. Berg—I would like to ask if Mr. Chapman has good queens.

Mr. Chapman—I find I have better queens than I can buy.

Mr. Root—Mr. Chapman could not rear new races of bees in this way, nor those extra-long-tongued queens.

Mr. Chapman—My bees are all Italians.

Mr. Hutchinson—I see no difference between rearing your queens and swarming. By his method Mr. Chapman makes up any loss.

Mr. Chapman—I keep watch of the drones and have only selected ones with which to breed, and permit only two colonies to rear drones.

BUILDING UP WEAK COLONIES.

Question—How can a weak colony be built up in the fall?

Mr. Hilton—We can not build up a weak colony.

Mr. Berg—I unite a weak colony with one that has a good queen, and sometimes unite three in this way.

Mr. Kirkpatrick—All colonies should be strong when put into winter quarters.

Mrs. Jackson—Could a weak colony be kept thru the winter by feeding a cake of sugar?

Mr. Hilton—The matter of increase can be overdone. You must have the best conditions in order to get the best results. Colonies must be strong in the fall if you want them strong in the spring. Bees can be fed during the winter in the cellar, with sugar-syrup, but you must be careful not to burn it when making it, and the best sugar must be used.

FOUL BROOD—CROSS-FERTILIZATION OF FRUITS.

Mr. Hastings, the representative from this district, had been requested to attend this meeting, and he made his appearance at this time. Mr. Rankin explained to him the effect of foul brood, and what other States were doing to stamp out this contagious disease. Mr. Voorhies was called upon to explain what the effect would be on the fruit-growing interests of the State if the bees were destroyed by foul brood.

Mr. Voorhies—I am a pioneer in this part of the State. When I first came here there were no honey-bees, nor even bumble-bees, here, and we could not raise melons, pumpkins, nor squashes without hand fertilization. I do not think all the fruit-growers realize the importance of cross-fertilization. I am more interested in fruit growing than in bee-keeping. I keep a dozen or more colonies more for the purpose of cross-fertilization than for the profit I get from the bees in the way of honey-production. When the apple-orchards in this section first began to blossom, altho the trees blossomed well the fruit did not set as it should, and at that time we had a few bumble-bees in this locality, but no honey-bees. I am convinced from the experience I have had that the reason why we did not get more and better fruit was because the work of the honey-bee on the blossoms was lacking. Fruit-growers nowadays do not plant Bartlett pears or Baldwin apples in large blocks, put in alternate rows with other varieties, and this is for the purpose of cross-fertilization. But we can not always depend upon the wind to do this, as the wind does not always blow. There is nothing that I have found in my experience that effects cross-fertilization so perfectly as the honey-bee. In the growing of small fruits we have had the same experience. We plant pistillate, staminate, or perfect-flowering strawberry-plants, in alternate rows, for this very purpose. Cross-fertililization will give the best results, and if we want No. 1 or fancy fruits, we must have it. The blossoms of the small fruits do not usually keep open as long as the tree fruits do. The flowers of the trees may last several days, tho much depends upon the weather, and the fertilization of these flowers may be a question of only a few hours. If one has bees near by to do this work he can be sure of having his trees well set to fruit. I do not see how I could well get along without the bees; one can not realize how important they are in this matter, unless he has had some experience.

Mr. Hastings—I will do what I can for the interest of my constituents while at Lansing. I have no doubt that the interest of fruit-growers as well as the interests of bee-keepers will be lookt after. You have my best wishes for both of them.

It was moved and carried that the committee draft a bill similar to the one they have in Wisconsin, and present it to the Legislature.

It was also moved and carried that the next annual meeting be held at Petoskey, the time of the meeting to be decided by the executive committee.

The Association then proceeded to the election of officers for the ensuing year, which resulted as follows: President, George H. Hilton; vice-president, Elias Coveyou; secretary, Wm. G. Voorhies, South Frankfort, Mich.; treasurer, W. Z. Hutchinson.

Mr. Hutchinson then described queen-rearing as carried on by W. H. Pridgen, of North Carolina.

QUESTION-BOX.

Question—Does it pay to paint the bottom-boards?

Mr. Hilton—It pays to paint both sides of the bottom-boards.

Mr. Kitson—What kind of stands are best for hives?

Mr. Hilton—I would have 2x4 scantlings in clay, and have one inch ventilation.

Question—Which way should the hives face?

Mr. Hilton—I want my hives to face the east.

Mr. Hutchinson—I have tried all ways, and do not think it makes any difference.

Question—Should hives be shaded in summer?

Mr. Hilton—Hives do not need shade except in the hottest weather—in July and August. The shade-boards should project over the sides of the hives to shade it properly, and weights should be used to keep them from blowing off. Hives should not be shaded in the spring, as the sun is best then to warm the hives.

Question—What size of hives is best?

Mr. Hilton—The majority prefer the 8-frame Langstroth. Comb honey can be produced with an 8-frame hive, but the 8 frames should be full of brood. To do this the honey at the side of the brood-chamber should be extracted, and the empty frames put into the center of the brood-chamber. It should contain no honey, whatever. When there is a honey-flow be sure that the outside frames are full of brood; if they should be full of white honey, this can be uncapt and placed in the center of the brood-chamber, when the bees will carry it up into the sections.

Mr. Berg—I have used both 8 and 10 frame hives, and find that I get more filled sections from the 10-frame. I have had the 10 frames full of brood. I use chaff hives, mostly.

Mr. Beecham—I am in favor of one-half story hives, so as to keep the different kinds of honey together.

Mr. Hutchinson—There is no loss in deep uncapping of honey in the frames, as the bees will make more wax that would otherwise be wasted.

Mr. Rankin—I have experimented with the refuse of wax-extractors, and would like to get some samples to determine the amount of wax wasted in the different ways of extracting.

Mr. Beecham—The use of an iron kettle makes the wax dark; galvanized iron makes the wax green.

Question—Which is the better foundation—heavy or light?

Mr. Rankin—I have used 9 sheets to the pound, and also 13 sheets to the pound. I like the thin foundation better.

Mr. Berg—I want a thick top-bar for extracting frames, so they won't sag.

Mr. Hilton—Have every frame waxt before putting in the foundation.

Mr. Coveyou explained the merits of his double-walled super, with the confined air.

On motion the meeting adjourned.

WM. C. VOORHIES, *Sec.*

Contributed Articles.

Instruments Used for Uncapping Honey.

BY FRIEDEMANN GREINER.

THE first new thing in the line of apiarian implements coming to us in this new century will be an uncapping-machine—at least so it is hinted at. And, indeed, if a machine can be constructed to accomplish the work of uncapping for the extractor satisfactorily and speedily, we will have made a great step in advance, and all extracted-honey men will be quick, I think, to avail themselves of the new invention. How great this step in advance is, will be apparent when I show the readers what the implements are like that have been used for the purpose in the past.

Nothing better seems to have been found by the American bee-keepers than the honey-knife. [Fig. 1.] Regard-

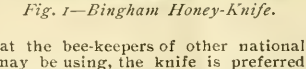


Fig. 1—Bingham Honey-Knife.

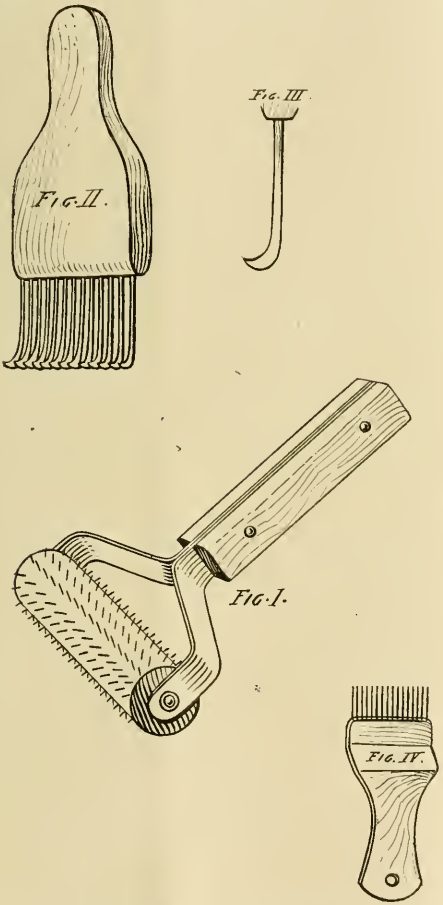
less of what the bee-keepers of other nationalities have used, and may be using, the knife is preferred by us in America. Numerous different instruments have been employed in the years gone by among the German bee-keepers. It would be difficult to state just how long the uncapping fork has been known, perhaps not less than 20 years. The long tines of the implement are pusht under the cappings and the latter are lifted off; sometimes they come off perfectly dry—no honey adhering. The work goes on rather slowly. I can do much more with the right kind of knife. The handle-part of the fork is usually made of metal. [See Fig. IV.]

To uncap honey for the bees I, like Dr. Miller and others, have used an uncapping-comb or harrow. This implement was originally devised by L. Huber, of Baden, Germany, in 1884, as shown in Figs. II and III. The tines

and teeth of the harrow are crookt at the ends and filed sharp; with them the cappings are sort of raked off, but can not be removed so perfectly but what a liberal portion of them will find their way into the honey and will have to be strained out or skinned off.

I have no doubt that Dr. Miller's uncapping-comb varies somewhat in its construction from this one as well as mine; but we do not use ours to uncap for the extractor.

Another very old uncapping instrument is the spiked uncapping-roller. It works easily and rapidly, and it suits me to a dot. Of course it only mashes or destroys the cappings and does not remove them, so they find their way into the honey, even to a greater extent than was the case with the harrow when the tool is used to fit the combs for the extractor as some Germans do. In operating it they run it over the combs several times and in various directions. It would afford me little satisfaction to use the roller in this fashion, but when I have sealed combs I wish to have emptied by the bees, then the roller comes in play and has no equal. It has come to stay with me. I have made the roller part three inches long and about one inch in diameter; in rows lengthwise of the roller 5/8-inch wire nails are partly driven in, then the heads pincht off with nippers so as to have them protrude 1/8 inch or a trifle more. This little roller is hung in a simple frame made of 3/4-inch hoop-iron as shown in the accompanying drawing [Fig. V.], with suitable small pieces of wood riveted on to make the handle complete.



I. Spiked Uncapping Roller. II. Uncapping Comb or Harrow.
III. Single Tooth Harrow. IV. Uncapping Fork.

Another uncapping instrument I see described as the uncapping-plane; but neither the illustration nor description is sufficient to give a clear idea of it, and as I do not find it spoken of in the bee-periodicals I judge that it is not a complete success.

The bee-keeping world is now awaiting with anxiety the forthcoming of Arthur Miller's uncapping machine.

Ontario Co., N. Y.

Working According to Locality—Killing the Queens Each Summer.

BY S. D. CHAPMAN.

SITUATED as we are, just half way between the equator and north pole, we have here in the northern part of the lower peninsula of Michigan long, cold winters, and usually it is late in the spring before we get warm weather. We have deep snow, yet the ground never freezes in the woods, and very little in the fields. The snow comes early in the fall, and it is nearly the last of April before it disappears in the forests. Several seasons my bees have gathered their first pollen from elm and soft-maple while there was yet a foot of old snow in the woods. A mile and a half east of me we are nearly on the hight of the land, and two miles west we are nearly on a level with the lakes. In the winter it is from seven to ten degrees colder on the higher land. Near the lakes we will find, usually, about one foot of snow; ten miles due east of there we will find four feet on the level. Raspberry and basswood come in bloom one week earlier on the low land. That part of the Grand Traverse region bordering on the lake and bays is not as frosty as southern Michigan or northern Indiana; but, just in my bee-range, we have early frosts, and the nights become cool early in the season. For this reason I believe in putting my bees in winter quarters quite early in the season—about October 15th. Years ago I found that my bees, if left on the summer-stands during our cold and frosty nights, would consume more honey from October 15th to the middle of November, than they would if put in the cellar October 15th and left till April 25th. I find from 8 to 9 pounds of honey will carry a colony of bees 190 days in my cellar. In the last 18 years, 180 days is the least time that my bees have been confined in the cellar—211 days the longest time.

At the present time I am using the ninth bee-cellar since starting with bees in this vicinity. I do not know as it is necessary for me to tell it, but I will say that in some of these cellars about all I had left in the spring was the *cellar*. The cellar that I now use is under my kitchen. It is 16x24, and there about 200 colonies in it. Some seasons there are a few more; in others, less. It is perfectly dry—so dry that you can not, at any time during the winter, find a drop of moisture the size of a pinhead on the under side of the cover that is right over the cluster of bees. I use no quilts nor cushions at any time of the year; and I prefer this kind of a cellar. I can not winter bees in a cold, damp cellar; but in a *warm*, damp cellar I have had them come thru seemingly in fair condition. They consume rather more honey, however, and they have not the vitality a colony has wintered in a warm and perfectly dry cellar. If I could hold the temperature of my cellar the latter part of spring to about 45 degrees, I have no reason to doubt that my bees would be in good condition, and not show a sign of disease at the end of *eight months* of confinement.

I use the eight-frame Langstroth hive. I have had some experience with very large hives, but in our cold climate we can not build up a colony in a large hive so that it can take advantage of the flow from raspberry. With us it is necessary that our bees are confined in just as small a space as possible, with plenty of stores, and just room enough for their present needs. This applies from the time of taking the bees out of the cellar, till the time sugar-maple and fruit-trees come into bloom. From the 5th to the 10th of May, we usually get our first honey from this source. In this vicinity there are a number of quite large bee-keepers, and every one of them has come to the eight-frame hive. We all work for extracted honey. With my method of management, the eight-frame hive is large enough for the need of any colony of bees I ever saw. And I know my colonies are as populous as it is possible to get with any style or size of hive.

I pay very little attention to my bees early in the

spring. As I take them from the cellar, any colonies that seem light in stores are put in a row by themselves, and fed; but I do not break the sealed covers on the others till near the time of fruit-bloom. I find that all the time spent in trying to build up very light colonies in the spring is thrown away. If they make a live of it they can be handled to advantage later in the season. With us, the time to build up our colonies so that they are strong in the spring, is during the month of August.

At the beginning of fruit-bloom I examine all of my colonies. From all that need more room, those that have brood in six or seven frames, and as many spaces well-filled with bees, I take one frame of brood from the brood-nest, selecting the one containing the oldest brood. I shake the bees off in front of the hive, and put a frame containing all worker-comb in the middle of the brood-nest in place of the frame of brood I have taken out. I now put on queen-excluding honey-boards, and leave them on till the close of the season. The reason I take this frame of brood from the brood-nest is that I find the queens will lay much faster in the middle of the brood-nest than they will in the outside combs. This being the case, right in the middle of the brood-nest is where we want our queens to do their work. We are after all the young bees we can get.

Now I will tell you why an eight-frame hive is far the best in building up colonies early in the spring. It is far better to have the brood in six or seven frames in the eight-frame hive than to have the same amount in four frames in a large hive.

The frame of brood that I remove, is put in an extracting-super directly over the brood-nest, and the super filled on each side with empty combs. The bees go right to work in this upper story. If the weather is warm, and a little honey is coming in, I can, in four or five days, take from this same colony another frame of brood. If it is a strong colony I take two. They are put in the extracting super beside the first comb of brood. I take out one or two combs, as I need, that were beside the first frame of brood put in the super, and as the bees have cleaned these combs and put a little new honey in them, they are just right to put in the brood-nest in place of the brood removed. The queen will occupy such combs right away. We must be a little careful not to take too much brood early in the season from the brood-nest, or we may discourage the queen. While our object is to stimulate the queen to lay to her fullest capacity, I sometimes think our best bee-keepers do not know just what a queen is able to do, provided the conditions of her colony are just right—and we keep them so for 30 days.

In a short time I take more brood from the brood-nest. This time I put it in another super and set it under the first, or over the brood-nest. At this time I destroy the queen-cells that have been started in the first upper story. The bees will not swarm if a dozen queens hatch in the upper stories, but when I extract I shake the bees from these upper stories in front of the hive, and, if there is a young queen with them she will crawl in the hive and destroy the old queen, and I lose the use of a laying queen for eight or ten days just at the time I need her most.

I follow this system of management *just as long as the bees will be worth anything to me on the raspberry or basswood.* We must recollect that there is a certain time during the life of a colony, each season, when we can build it up faster than at any other time during that season. I expect to find not less than 13, and in some of my best colonies as many as 25, frames containing brood and honey—there is more or less brood in all of them. I think my colonies are 40 percent better than they would have been if I had given the queen the two lower stories and let them build up without any of my assistance.

Two years ago I set apart five colonies that were better than the average of the yard, and I gave the queen of each the lower stories, and let them build up just as suited their notion; adding upper stories and extracting as they needed. With the remainder of the yard (77 colonies) I used my method of management. At the end of the season I had 1800 pounds of honey, extra, to my credit from the 77 colonies. This is about 23 pounds per colony; and I sold this honey at 6½ cents on board the cars. I tried this experiment in an out-yard, three miles from home. It took one-half day to go to this yard, put brood in the upper stories, destroy the queen-cells, and return home. I did this eight times, requiring four days of time, and I had this 1800 pounds of honey to pay me for my four days' labor. The showing in favor of the 77 colonies would have been much better if there had not been a number that did not amount to much on the raspberry. This is not all; my bees *never think of swarming.* I am complete master of the situation, under any and all conditions. This alone is worth the four days' time.

During the last three years, raspberry has yielded about the same each season. My best colonies, those occupying four stories, have yielded, each season, from 160 pounds to 200 pounds per colony. My three-story hives during this same time have averaged 90 pounds each; my two-story hives from 20 to 40 pounds.

The wild red raspberry comes into bloom not far from the 5th of June, and it yields continually till near the 1st of August; tho it is on the decline after July 15th. The past season it came into bloom the *second time,* and my bees gathered fully five pounds per colony from the 1st to the 10th of October. This is nothing unusual, tho I do not recollect getting so much honey so late in the season from this source. After my bees were in the cellar there was bloom, green and ripe berries, up to November 1st.

Basswood comes in bloom about the 15th of July; but we have had little honey from this source the last four years. When basswood yields, it is not those extra-large colonies that wintered the best, that built up early in the season and gave us such large yields from the raspberry, that prove to be the best on the basswood. Far from it. Those large colonies built up rapidly in the spring, but it is impossible to keep our queens laying at their best except for a short time. Tho honey may be coming in every day, the bees are getting old, and those colonies are on the decline, while colonies that were lighter early in the spring have been building up, and by the time basswood comes into bloom they are liable to send out a larger working force of bees that are just the right age to take advantage of the yield from basswood; that is why our lighter colonies prove the best on the basswood. If we are to make a success of any colony we must bring it thru the winter in *good condition*; then we must thoroly understand our location; and a certain time before the honey harvest we must stimulate that colony to build up as rapidly as possible. Remember, the faster the colony builds up, the more vigorous are the bees; so that the colony is able to bring into action the largest possible force of bees that are just the right age to take advantage of the flow.

From about the 1st to the 10th of July I kill all of my queens. I have practiced this for 16 or 17 years. I would not go to this expense unless I thought I had some pretty good reasons for doing it, as it takes a day in each yard to hunt them up. Where queens are workt as I work them they never prove as good the second year. With my management the average life of the best of queens is not over two years. The first year of their lives, not one queen in a hundred is superseded. The second year, from 30 to 50 percent of them will be superseded in the fore part of the season, just at the time we want a good queen in every colony. This makes a big hole in my honey crop. At the time I kill my queens my colonies are in the very best condition. I am sure of just as good queens as we can get with the most favorable swarming conditions. After killing the queens, for about 25 days, no eggs are laid in the hives. Our colonies are not rearing a lot of bees that would be consumers for this length of time. As the brood hatches in the brood-nest the bees fill these combs with honey, leaving the colony in better condition for winter. One of my best reasons for killing the queens is that thereby each colony is furnisht with a good young queen to build them up for winter.

Experience and a careful study of this matter will show many more reasons why it is profitable to kill the queens each year in northern Michigan. As I said in the beginning of this article, the time to build up colonies so they are strong in the spring is during the month of August. I use the same method in the fall that I do in the spring, but not on so large a scale. Near the first of June I select from four to six of my best colonies, and in each colony I put two frames containing largely drone-comb, for the purpose of rearing drones. I do not intend to rear any drones except from these colonies, as I use only worker-comb in the brood-nests, and if a few drones are hatcht they must nearly all hatch in the upper stories, where they soon worry themselves to death or are killed in trying to get thru the queen-excluder.

If I wish to run a colony or two for comb honey, 15 or 20 days before the end of the honey harvest I take one or two of these large colonies (they are twice as large as any colony that is run for comb honey from the beginning of the season) and remove the three extracting supers, and in their place I put three section-cases. They will fill three

about as soon as they will one. In 30 minutes these section-cases are filled with bees; and they go right to work. I can take more section honey, late as it is in the season, than I could if I had workt the colonies for section honey from the beginning of the honey harvest; and I have already taken 60 or 80 pounds of extracted honey before I put on the section-cases. They do the work so quickly that we get an extra, No. 1 quality of section honey.

I have told you that my bees do not swarm, and I think I can tell you *why* they do not swarm. The raising of the brood to the upper stories, distributing it in three or four places, there is no *large body* of brood in the brood-nest at any time; especially *sealed brood*. From the time I put up the first frame of brood they have been starting queen-cells in the upper stories, and every 10 or 12 days I destroyed them, but during all this time (four to six weeks) they have not attempted to start a queen-cell in the *brood-nest* where the queen is laying. Eleven years ago I used the same management as I do at present. That season I killed 140 queens, and over 80 of that number *did not start a queen-cell in the brood-nest;* and the brood was too old in the upper stories. I should have had over 80 queenless colonies had I not discovered it just in time to take cells from those colonies that were rearing queens.

I mention this case to show the conditions into which we can bring our colonies; and how slow they are sometimes even to recognize the loss of their queens.

I think these are the reasons why my bees do not swarm up to the time that the young queens hatch; and I think this management has something to do in keeping them from swarming at the time the queens hatch. My bees do not get the swarming-fever. When the young queens hatch, the conditions in the hive are changed; I have put no brood in the upper stories for a week or more previous to killing the queens. If there is a colony in the yard that has the *swarming-fever* at the time I killed the old queen, that one will swarm from the 11th to the 13th day, even tho I destroyed every sign of a cell at the time I killed the queen, while the others do not hatch a queen till the 14th or the 16th day from the time of destroying the queens.

At the time the queens hatch there is no brood in the upper stories, and I extract the honey closely, so, at this time, there is plenty of room. This is the reason they do not swarm at the time the queens hatch.

I have run my out-yard of 90 colonies the whole season, killed all the queens, and have had but one swarm; and that swarmed at the beginning of fruit-bloom before I had put on any upper stories. The swarming-fever is a spontaneous impulse, and we can so change the conditions of a colony that it is liable to contract the desire to swarm in *15 minutes*. Supposing, at the time the young queens hatch, each colony has a young queen, and most of them have destroyed the queen-cells, now remove all the upper stories, confining these large colonies to the brood-nest, and I should expect *every one of them to swarm*. I would have my hands full for a day or two. With these conditions I have known a colony to swarm in 30 minutes after we had brusht the bees carefully from the combs. If we *shake* the bees from the combs we cover them with honey, and have spoiled the experiment.

Just before the queens hatch I make my increase by division; and it is not *at the expense of my honey crop*. In union there is strength. I have kept the bees in each colony together till near the end of the honey harvest.

Many of our best writers have frequently told us always to keep our colonies strong. I hardly think this is good advice for our locality. Years ago I would have given a good deal if they had gone a little farther and told us just how they managed to *build up* their colonies so they *were* strong. And now, just for the fun of it, I would like to know, when their colonies *are* strong how they always *keep* them so.

It is necessary that every bee-keeper should understand his own locality, and what is best adapted to the requirements of his location.

I have not written this as a pattern for bee-keepers in New York, or California, or any other State, but simply at the request of a few bee-keepers living in northern Michigan, who wish to try my method of management.—Bee-Keepers' Review. Antrim Co., Mich.

The American Fruit and Vegetable Journal is just what its name indicates. Tells all about growing fruits and vegetables. It is a fine monthly, at 50 cents a year. We can mail you a free sample copy of it, if you ask for it. We club it with the American Bee Journal—both for $1.10.

The Afterthought.

The "Old Reliable" seen thru New and Unreliable Glasses. By E. E. HASTY, Sta. B Rural, Toledo, O.

A REVIEW OF "THE HOME CIRCLE."

And so it's a "Home Circle" our journal is to have. A poor one would be just so much space wasted. A good one, without much doubt, would decidedly help the paper to prosper. I can't say I exactly like that quavering editorial half-promise to steal all the space needed from the advertisements. Sounds as if the editor hadn't the "sand" to edit his own paper. (He has, tho.) Other things being equal, the bee-paper that makes itself of interest to the whole family will distance the one that only interests one individual. In the good old times, when to meet a bee-keeper was to meet a man consumed with a raging "bee-fever," the above dictum may not have been true, but you know we have to live in present times. The species of mosquito whose bites inoculate bee-fever has become nearly extinct. As for the old patients, they are mostly "pretty well, thank you," at 97¾ degrees Fah. And, don't you know, the prosperous paper (besides its side-issues) will have more acres in bee-reading, and more fertile acres, too, than the unprosperous one can possibly sport. However correct you may think his principles to be, the editor who allows his paper to "spring-dwindle" will make you but little return for your dollar. Cause why? *He can't.* It hardly needs saying that Prof. Cook is a man who has right ideas—progrest ideas—about what home ought to be.

From the concentrated wisdom of the seventeen Maxims I will quote just two words: "Avoid moods." Moods all right in grammar; and I think I'll advocate "high license" instead of "prohibition" for moods in folks. Don't believe I exactly want a friend whose whole life is one even thing, unvaried by a single change of mind. Constant, even-toned sounding of one note is hardly the thing—even if the note is "soul." And we'd greatly want to change off upon another mood, that fellow whose forever note is "Me," with a big M. License of $10,000 for the Me-Indicative mood. Also the contemptuous Poh!—tential mood, and the too-imperative. Imperative mood should be mulcted well for the public treasury. But the main idea of the maxim is right. Down on the home-circlist who won't give a civil answer to a civil question, and hides behind an excuse. Perchance this is an excuse: "I have an angelic mood which I wear much of the time—so you must remember that I average well—just for now this is my nearly-innocent and not-very-big Polar-Bear mood." That individual should be compelled, somehow, to see self as others see. Pages 163, 170, 171.

IMPORTANT POINT IN SPRAYING TREES.

One thing in Mr. E. R. Root's excellent paper on spraying trees in bloom is less familiar to the mind of the bee public than the rest of the points made. The poison is charged with damaging the pollen. Grains will not develop when moistened with the solution, or even with a half-strength solution. Surely it looks hardly wise for the orchardist to depend for pollen on the flowers he fails to hit. Page 120.

BUYING SUPPLIES WITHOUT A GUARANTY.

When it gets to the point that retailers generally are not willing to buy supplies without a guaranty as to what things are really made of, then indeed a pure-food and pure-honey morning does begin to streak the east—or is it the *west* in this case that gets streaked first, and needs it most? We don't feel *very* malignant toward any one, but we trust the swindlers also feel a little streaked. Page 121.

WORMS ON TREES AND IN HIVES.

And now comes a man who apparently thinks the worms (so-called) he finds in his apples, and the familiar ones of the bee-hive, are the same thing. And he *discovers* (in certain frame of soul how we do discover things!) he discovers that each color of apple has a similarly-tinted worm—and ditto of the bee-hive that doth stand beneath that tree. Mr. Tesla would better be looking a little out for his laurels. But while we are contemplating this good friend we would better be seeing ourselves a little also, and *our* inventions and discoveries. I once discovered the source of the power which makes the earth revolve on its axis—and came near trying to publish it to the world. I made a machine that would generate axis

rotation beautifully, and I thought I knew why. I didn't, tho. Page 126.

THE WISCONSIN BEE-MULCT.

That proposed legislative mulct of $400 for moving an apiary is of interest as showing the crudity of some people's ideas of bees. Evidently think the bee-man is getting a fortune too fast, and that he ought to be made to "shell out" some of it. Page 131.

"AFEARED" OF A HONEY-TRUST.

And so, Mr. Aikin, a convention will wrestle, and wrangle, and suggest, and advise, and demand—and then suggest and advise the opposite thing—and then appoint a committee to sell the honey crop of a State—and provide for the greasing of the wheels—not one dollar! Still Mr. A. has hopes. I, too, have—what would be hopes in a different person—I'm "*afeared*" that the honey-trust will some time be an accomplisht fact. Page 132.

ORTHODOX AND UNORTHODOX GOLDEN BEES.

According to Mr. Doolittle's interesting history of the five-banders there seems to be in the land both an orthodox and an unorthodox golden bee. Latter a mongrel worthy of all sorts of perdition—but doubtless handy to bear away the sins of both kinds. Still, whether you mongrelize, or whether you eschew mongrelization, this critic for one doesn't believe you can breed golden color to the front without at the same time breeding to the front the ancestral qualities of certain ancestral bees. Wonder which kind it was that a friend of mine presented me. They were beauties, indeed; and they also seemed good-mannered, and exceptionally enterprising; but they didn't *begin* to get thru the first winter alive. Page 134.

BEE-PARALYSIS AND QUEENS.

The article of O. O. Poppleton, on page 134, should not be lightly past by, even if it is a sort of insoluble puzzle. It looks a little as if the virus of paralysis has spread *invisibly* pretty much everywhere, but developing to do serious mischief only in favorable climates showing mainly in the inferiority and short-livedness of queens. And how about the resident Florida bees? Are they free from it (by the extinction of all not free), or are they immune to the virus which they carry as well as the rest?

SHELTER AND SHADE FOR BEES.

That nid-nod, rod-long umbrella of Mr. Wagner's, to shelter and shade his bees, it has obvious good points; and it is moreover somewhat of a novelty, in these last days when novelties are scarce. We tip our hats to it just at the angle shown in Fig 2. Possibly some might say that the arrangement as a whole has obvious disadvantages also. Page 135.

UMBRELLAS BY MAIL.

Umbrellas by mail, eh? If Uncle Sam should adopt the notion would any lost umbrellas, we wonder, imitate the "vilest sinner" and return? Still viler than the vilest sinner most of 'em, we fear. Possibly, our French and Swiss brethren, you have carried postal reform an inch or two too far already; but what say to an apiary by mail at 15 cents per hive? Then migratory honey-grabbing might get up-to-date. And the exhaustion of the subject he complains of seems to improve C. P. Dadant, page 135. Would almost like to see what kind of brick he would make when deprived of both straw and clay.

HOT AND COOL SUGAR-HONEY TALK.

Prof. Cook's hot words about sugar-honey on page 149—possibly it might be well to say some words in addition which are a little cooler. Whether sugar syrup manipulated by bees is "honey" or not, is, to a certain extent a matter of definition of words, and of opinion. Now people may be atrociously wrong in their definitions and opinions without *entirely* falling into untruth. World is full of just such people: and let us try to be patient with them. Again, some of those whose—not quite falsehoods—we deplore may never have tasted the real article, stored when bees were in the active condition. Wake the bees up after they have ceast work for the season, and make them carry down in haste some syrup, and *occasional samples* of this kind of work *may* possibly taste more like syrup than they do like honey. But the real article, if I am right, not only has a honey-like taste in a general way, but it has a decided special taste, not at all suggestive of sugar, that would almost deceive the very elect into calling it the flavor of some particular kind of flower. Exactly that happened to Mr. Heddon on a certain rather public occasion. Again (to resume) our senses of smell and taste, rather more than the other senses, are often be-trickt, especially if our minds are excited. For instance, I abominate tomatoes. Once my mother gave me a piece of very sweet pie. It tasted good. Later on I found out it was made of preserved tomatoes—and then it tasted bad—couldn't eat such stuff to save me, then. It is related that some express clerks somewhere out West buried a box of pumps, that chanced to be shaped like a coffin, because the corpse inside *smelt so bad*. It was not falsehood that ailed these clerks, but just the fallibility of the poor human critter.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Brood Diseases.

A subscriber sends me a sample of brood that may be affected by foul brood or something closely allied to it. In matters of so much importance it is wise to take no chances and to waste no time; so I advise any one who has reason to think that anything like foul brood, pickled brood, or black brood, is present in any of his colonies, to send a sample with the regular fee of $2.00 to Dr. Wm. R. Howard, Fort Worth, Tex., so that it may be analyzed, and then the sender will know positively what is the trouble, and what is to be done with it. I know of no one in this line more competent than Dr. Howard, and bee-keepers owe him a debt of gratitude for his investigations. C. C. MILLER.

Transferring and Dividing Colonies.

1. My bee-book tells how to transfer colonies, but if I do it by the Heddon plan, what is to hinder the parent colony from being robbed during the 21 days, if near the apiary?

2. Why could I not drum them into the new hive at once that has old combs, having it tight around the bottom, not using the forcing-box?

3. If I make swarms by dividing according to the text-books, will the queenless part rear a queen if there are no queen-cells at the time of dividing? Why wouldn't they be worthless, like many other queenless colonies?

4. Would colonies made by dividing, be likely to produce as much surplus honey as if left to swarm naturally?

MASSACHUSETTS.

ANSWERS—1. The supposition is that the bees will defend themselves against robber-bees, but it will be well to help them by contracting the entrance somewhat.

2. That certainly will be better, if the hives are such as to allow it.

3. Set it down as a fixt fact that if you want good queens they must be in strong colonies and in favorable circumstances at least till sealed. That settles the question that the queenless part must not be allowed to rear a queen from the start unless strong and gathering.

4. Just as much, if of the same strength and having the same advantages.

Spring Requeening—Introducing Method.

If you were to requeen an apiary in the spring with young queens from the South, what method of introduction would you practice? IOWA.

ANSWER—This matter of queen-introduction is such a constantly changing and elusive thing that it is hard to tell a month ahead what one would do. Just as it happens to look at this minute, I suppose I should take the regulation way of introducing in the cages that brought them. If I didn't follow that exactly, it would be to do something that had before proved successful in my hands, without much reference to what had succeeded with others. Explain it as we may, there's something about the matter that allows A to be successful in one way and B in another, while both

might fail if they should swap plans. If time was plenty, and it was decided to take extra precaution, this might be done: At the time of day when bees were busy flying, remove the old queen and set the hive in a new place, after first taking from it a frame of brood and bees to put in another hive on the old stand; put the new queen in the removed hive and perhaps two days later return to the old place, giving it back its frame of brood.

Now it's none of my business, but if you're requeening with young queens to avoid swarming, I'll volunteer the remark that in this locality it doesn't do to make the change too early.

Transferring—Controlling Swarming.

I got a start in bees last summer. Can I transfer or increase, and incidentally control swarming, by placing Langstroth hives with starters *under* or *over* box-hives? or does the "A B C of Bee-Culture" (which I have) cover the whole ground? If so, I shall have to follow instructions therein. INDIANA.

ANSWER.—If you put a box-hive over a frame-hive having its frames filled with foundation, and allow the bees to work down and fill the lower hive, you will probably have, if you wait long enough, all the brood in the lower story, and consequently the colony transferred, and you may confidently count on no swarming. With a little more trouble you can have a surer and quicker way. Put on the stand of the box-hive a movable-frame hive filled with foundation, and put over it a queen-excluder. Drum the bees out of the box-hive until you think you have the queen, and run them into the frame-hive. Set the box-hive over the excluder, and close up any opening over the frame-hive or under the box-hive. A week later look to see if you have eggs below, and if not drum again. Three weeks after the queen is drummed out all the brood will be below (unless it be a small amount of worthless drone-brood), and the box-hive may be disposed of. No danger of swarming. It will be a help in either case if you can get a frame of brood from another colony and put it in the frame-hive at the first.

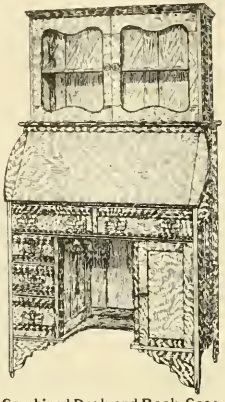
Stimulative Brood-Rearing in the Spring.

When should I begin, and how much should I feed, to stimulate brood-rearing in the spring? The colonies are pretty weak. ILLINOIS.

ANSWER.—Unless you are somewhat experienced, and unless you are very careful, you will do well to let stimulative feeding alone. It may do good and it may do harm. If you feed so as to start the bees to flying out when it is so cold that they will be chilled and lost, it will be a losing speculation. If the bees are started out flying, and then it suddenly turns cloudy when the temperature is not very high, the bees may never return to their hives. It may be a safer thing, and perhaps just as well in the long run, if you see that the bees have abundance of stores, and have all cracks about the hive closed, and then leave them to themselves. But if you think it best to try stimulative feeding, begin when the bees fly out every day at least a little, feeding every *evening*, or every alternate evening, a half pound of sugar with an equal or greater quantity of water.

It Stands to Reason
That There Is Money Saved in Buying Direct from the Manufacturer.
No. 717 Flat-Bottom Surrey. Price with pole or shafts $75.00. A fine as retails for $100.00 to $140.00 more than our price. We make 45 styles surreys and 7 trap.
No. 212 Canopy-Top Trap. Price with pole or shafts $80.00. A fine in every way as usually sells for $35.00 more than our price.
The profits between the manufacturer and consumer are large. We Save You These Profits. We are the largest manufacturers of Vehicles and Harness in the world selling to the consumer exclusively. For 28 years we have conducted business on this plan. We guarantee to give you much better quality for the same money, or the same quality for less money than the dealer, jobber or supply agent.
We Ship Anywhere for Examination and Comparison, Guaranteeing Safe Delivery. We have No Agents.
We make 178 styles of vehicles and 65 styles of harness. Our Large Catalog shows every Vehicle and Harness we make and gives prices. IT'S FREE.
Elkhart Carriage and Harness Manfg. Co.
W. B. PRATT, Sec'y. ELKHART, INDIANA.
No. 47 1-2 Single Strap Harness nickel or imitation rubber trimmings. Price $9.50. As fine as sells for $12.00 to $15.00.

DESKS FOR GENTLEMEN AND LADIES!



Combined Desk and Book-Case
Size, 66-in. high, 36 in. wide, 19 in. deep.
Price, $13.75.

THESE DESKS are made of quarter-sawed oak, first-class finish, well put together, and will please every purchaser. They are an ornament to any home, as well as being a useful necessity. Would make a FINE GIFT for father, mother or sister.

The Combination Desk and Book-Case

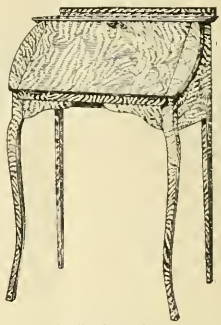
is just the thing for a farmer or business man of any kind, to keep his private papers in, and for his books, etc. The drawers have locks, and there are a number of pigeon-holes inside each of the desks shown herewith.

The low prices quoted are f.o.b. Chicago. Send for free catalog. Address,

The Royal Star Combination Game-Board Co.,
773 to 779 Carroll Ave., CHICAGO, ILL.

[The above firm is entirely reliable.—EDITOR.]

☞ Please mention the Bee Journal



Ladies' Desk.
Size, 40 in. high, 25 in. wide, 15½ in. deep.
Price, $2.85.

A WHOLE GARDEN For 14c.

We wish to gain this year 200,000 new customers, and hence offer

1 Pkg. Salzer's Blue Blood Tomato.. 15c
1 " The Northern Lemon..... 10c
1 " Mamm's Favorite Onion..... 10c
1 " Emerald Green Cucumber.... 10c
1 " City Garden Beet..... 10c
1 " 13 Day Radish..... 10c
1 " LaCrosse Market Lettuce.... 15c
3 " Elegant Flower Seeds..... 15c

Worth $1.00 for 14 cents. $1.00

We will mail you this entire $1.00's worth of splendid seed novelties free, together with our large illustrated Plant and Seed Catalogue on receipt of this notice and 14c in postage

Choice Onion Seed 60c lb and up.

Potatoes at $1.20 per barrel and up. Catalogue alone, 5 cents. T

JOHN A. SALZER SEED CO., LaCrosse, Wis.

Wanted! A trustworthy boy or young man to assist in apiary work, to learn practical bee-keeping, and earn good wages. 100 colonies of bees for sale. C. THEILMANN, Theilmanton, Wabasha Co., Minn.

14Atf Mention the American Bee Journal.

THERE IS NO INCUBATOR

which has been more successful than the **1 CYCLE.** You hear about them everywhere. The reason is that they do their work so well. Send 6c in stamps for new 154 p. book, printed in 5 languages, describing our Successful Incubators and Brooders. They deserve their name.

Des Moines Incubator Co., Box 78, Des Moines, Iowa.

Please mention Bee Journal when writing

SENT ON 30 DAYS TRIAL **$5**
The **Buntum** hatches every hatchable egg. 50-egg size, $5. Send 4c for Cat. No. 63.
Buckeye Incubator Co., Springfield, O.

SEED BILL DUE FREE

To get new customers to test my **Seeds**, I will mail my 1901 catalogue, filled with more **Bargains** than ever and a **10c Due Bill** good for **10c worth of Seeds** for trial **absolutely free.** All the **best Seeds, Bulbs, Plants, Roses, Farm Seeds, Potatoes** and many **Novelties** at lowest prices. **Ginseng,** the great money making plant. **Giant Prize Tomatoes,** 2 to the foot, **Pan American Oats,** sent on free to farmers, and two **Free Passes to Pan American Exposition,** Buffalo, N. Y. are offered. $2,655.00 in cash premiums. Don't give your order until you see this new catalogue. **You'll be Surprised** at my bargain offers. Send posta l for catalogue to-day. **It is FREE to all.** Tell your friends to send too.

F. B. MILLS, Box 88, Rosehill, Onondaga Co., N. Y.

GENERAL ITEMS

Good Yields of Honey—Foul Brood.

I have been in the bee-business about 10 years, commencing with one colony. I aim to keep between 50 and 60 colonies all the time now. In 1899 I secured 6,000 pounds of extracted honey, and last season I secured 4,000 pounds. I sell it all at Boulder and the mining towns in this vicinity, getting from 8 to 10 cents per pound for it. I put it in two-pound Mason jars, and also in tin cans, and have a ready sale for it. Our honey is mostly gathered from alfalfa bloom.

Foul brood got into my apiary last season, and as I had never had any experience with the disease, I lost the use of a good many colonies by transferring them too late, but I saved the most of the bees, and what honey I got was fine. F. W. BADER.

Boulder Co., Colo., March 18.

Bees Wintered All Right.

My bees are now at work on peach, plum, mustard and turnip blooms, and have come thru the winter all right, and with no loss. I had bees swarm last April, and I believe they will swarm again this year in April.

R. P. DAVIES, M. D.

Lamar Co., Tex., March 23.

National Bee-Keepers' Association.

The report of the Chicago convention was particularly valuable and interesting. I believe it should be issued in pamphlet form, thus making the fund of information contained therein easily accessible. I am more imprest with the value of the National Association and its possibilities in the interest of bee-keepers every time I think of it. With united action and support of the fraternity it seems to me that the Association could be made the distributing agent for the product, and the manufacturer and distributor of supplies as well—a bee-keepers' trust, and why not? With concentration in production and

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.

250 Poultry Pictures

illustrating every phase of poultry raising and 224 pages of matter telling how, when and what. That and much more is in our "Profitable Poultry Keeping in all its Branches." Tells also about the warranted for 10 years **Cyphers Incubator,** which is guaranteed to outhatch any other incubator, or money refunded. Book for 10c in stamps. Circulars free. Address nearest office. Ask for book 50

CYPHERS INCUBATOR CO.,
Chicago, Ill. Wayland, N. Y. Boston, Mass.

Wanted To Exchange!
100 COLONIES OF BEES on 8 Langstroth frames each, valued at $3.00 each, for beeswax or bee-keepers' supplies.

14Atf H. VOGELER, New Castle, Calif.

ELECTRIC HANDY WAGONS
excel in quality, strength, durability. Carry 4000 lbs. They are low priced but not cheap.
Electric Steel Wheels—straight or staggered oval spokes. Any height, any width of tire to fit any wagon. Catalogue FREE.

ELECTRIC WHEEL CO., Box 16, Quincy, Ills.

BEE-SUPPLIES!
ROOT'S GOODS AT ROOT'S PRICES
Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.
WALTER S. POUDER.
512 MASS. AVE. INDIANAPOLIS, IND.

Removed—Queens

I wish to inform my many kind friends and customers that I have moved from Merigold, Miss., to **Coal Creek, Tenn.**, where I am making A SPECIALTY OF REARING QUEENS that produce the very prettiest and best workers that work on red clover.

Untested, each ..... $ .75
Tested, " 1.00
Breeders, " 3.00
Select Untested, each ..... .85

Give them a trial and be convinced. Thanks for past favors. Respectfully yours,
DANIEL WURTH,

14A2t Coal Creek, Anderson Co., Tenn.

distribution, the expenses of both would be minimized, and the large slice now taken by the supply trust before, and the commission trust after, the crop is secured, would largely revert to the producer.

That this is not all guesswork I am convinced from late experience. In 1900 I askt for prices from a firm that advertised "Root's goods at Root's prices," on 1,000 brood-frames, sending them sample. They quoted $21; I got the frames made for $12.50. This is no reflection on the firm, as the prices of other supply dealers vary but little from the above. The margin saved in this transaction shows what may be done if we wake up and do it.

My 70 colonies are all alive and well, but have had no chance for a general flight since last November. WM. WRAY.

Gratiot Co., Mich., March 6.

Outdoor-Wintered Bees.

I am afraid that some of our outdoor-wintered bees have been confined too long for their own good. Bees in the cellar never were quieter at this time of the year.

FRIEDEMANN GREINER.

Ontario Co., N. Y., March 18.

Bees Did Fairly Well.

My bees did fairly well last season. I secured 2,600 pounds of comb honey from 37 colonies, which I sold for $280.10.

W. G. LINDZA.

Boulder Co., Colo., March 19.

Bees Wintered Splendidly—Prospects Bright.

My bees have wintered in fine condition, 90 colonies having come thru without a single loss. I hear some of my neighbors complaining of losses, but I attribute it to negligence on their part.

We have had an unusual amount of snow this winter, which insures plenty of water for irrigating purposes, hence a large crop of alfalfa, and the bee-keepers are expecting large returns—disappointments not included.

The weekly contents of the "Old Reliable" are as eagerly awaited as of yore.

JOHN W. LYELL.

Washoe Co., Nev., March 18.

Bees Wintering All Right—Bee-Literature.

We are having a fine winter, and bees seem to be wintering all right so far. They gathered the first pollen on Feb. 17th, and again on March 2d and 3d, but the weather has turned cold again, and they have stopt work.

I am employed in a store here, and see a great many people, and have the opportunity

Bee-Keepers' Supplies.

Just received a consignment of the finest up-to-date **HIVES and SECTIONS** we've had. They are 2d to none. Complete line of **Bee-Keepers' Supplies** on hand. Bees and Queens. Catalog free.

THE A. I. ROOT CO.,
H. G. ACKLIN, Manager,
1024 Miss. Street, St. Paul, Minn.
13Atf Please mention the Bee Journal.

HOME-SEEKERS' EXCURSIONS.

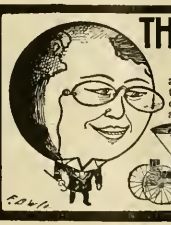
On the first and third Tuesdays of each month the Chicago, Milwaukee & St. Paul Railway will sell round-trip excursion tickets from Chicago, Milwaukee and other points on its line to a great many points in South Dakota, North Dakota, and other Western and Northwestern States at about one fare. Take a trip West and see the wonderful crops and what an amount of good land can be purchast for a little money. Further information as to rates, routes, prices of farm lands, etc., may be obtained by addressing F. A. Miller, General Passenger Agent, Chicago, Ill.

BEE-KEEPERS' SUPPLIES

THE FINEST IN THE WORLD.

Our New 1901 Fifty-Two Page Catalog Ready.
Send for a copy. It is free.

G. B. LEWIS COMPANY....
WATERTOWN, WISCONSIN, U. S. A.



THE WHOLE WORLD ADMIRES
Split Hickory Vehicles,

and the best of it is, the closer you examine them, the better you like them. They are built right all the way through and they have a hundred special features—"little things" that add to their comfort, safety and durability found on no other. We sell

DIRECT FROM THE FACTORY

You save all agent's profits. We ship on approval. You don't keep it unless you think it a bargain. Send for our Vehicle and Harness catalogue. It will save you money.

OHIO CARRIAGE MANUFACTURING CO.,
6 W. Broad Street, Columbus, Ohio.

Please mention Bee Journal when writing.

LIKE A SORE THUMB.

Our low prices and our **Ten Days Trial** plan are "forever in the way" of the local dealer. He doesn't like us—naturally—because we let our customers take a vehicle and use it 10 days before deciding whether they will keep it or not, and because we sell you better goods for less money than he possibly can. There are two or three profits on the goods he sells—the dealer's, the jobber's, the manufacturer's. We make our own goods and add but one small profit. In style, finish and material you wont find the equal of our vehicles for the money anywhere.

Send for big, free catalogue and particulars of our 10 days trial plan. We make harness too.

KALAMAZOO CARRIAGE AND HARNESS CO., Box 53, Kalamazoo, Mich

Please mention Bee Journal when writing.

At the Paris Exposition

where, as usual, our exhibit attracted more attention than almost anything else, we thought we were among strangers. So we were, but we were simply surprised at the large number of people from all over Europe who called on us and said they were using **Reliable Incubators and Brooders.** All were satisfied and congratulatory and it made us feel quite at home. There is but one explanation—**merit, merit, merit.** Our **20th Century Poultry Book** makes it all plain. Sent for 10c as long as they last.

Reliable Incubator & Brooder Co., Box 52, Quincy, Ill.

Please mention Bee Journal when writing

Belgian Hares
CHEAP.

PEDIGREED AND COMMON STOCK.

Having bought a Job Lot of a neighbor and added to what I had, I must dispose of same to make room for my increase. They are mostly young—3 months and over—with a few bred Does. ALSO

Italian Queens

of last season's rearing, ready as soon as the weather is warm enough to send thru the mail. Write for prices. Address,

J. L. STRONG,
11Atf **Clarinda, Page Co., Iowa.**

Please mention Bee Journal when writing.

Harry N. Hammond Seed Co.—We are very glad to call the attention of our readers to the Harry N. Hammond Seed Co., of Bay City, Mich., who have been advertising in these columns for some time past. Very many of our readers will remember when Harry N. Hammond started growing and selling seeds in a comparatively small way at Fifield, Mich. At this point the business grew to large proportions when an almost overwhelming calamity befell their business in the shape of fire about a year ago, which destroyed their warehouses. This blow would probably have crusht out the ambition of most business men, but with commendable pluck and enterprise Mr. Hammond decided to re-establish his business on an even broader and more substantial basis than ever. Realizing that it would be an advantage to have his warehouses and shipping business in a larger city, he incorporated his company and located at Bay City, where large and commodious buildings were erected for his use. These people issue a very complete catalog which we will be glad to have our readers write for if they have not already done so. In writing please mention the American Bee Journal.

Marshfield Manufacturing Company.

Our Specialty is making **SECTIONS**, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

8A26t **Marshfield Manufacturing Co., Marshfield, Wis.**

Please mention Bee Journal when writing.

QUEENS!

Improved Golden and Leather-colored Italians are what **H. G. QUIRIN** rears.

We have one of Root's best long-tongued **Red-Clover Breeders** from their $200 queen, and a Golden Breeder from Doolittle, who says if there is a **BREEDER** of golden bees in the U.S. worth $100, this one is worth that sum. The above breeders have been added to our already improved strain of queens for the coming season.

J. L. Gandy, of Humboldt, Nebr., wrote us on Aug. 5th, 1900, saying that the colony having one of our queens had already stored over **400** pounds of honey (mostly comb); he states that he is certain that our bees work on **Red Clover**, as they were the only kind in his locality and apiary.

A. I. Root's folks say that our queens are extra fine, while the editor of the American Bee Journal tells us that he has good reports from our queens from time to time. We have files upon files of unsolicited testimonials.

After considering the above evidence, need you wonder why our orders have increased each year? Give us a trial order and be pleased. We have years of experience in mailing and rearing queens. Safe delivery will be guaranteed, and instructions for introducing sent with each lot of queens.

QUEENS NOW READY TO MAIL.

Warranted stock, $1.00 each; six for..... $ 5.00
Tested queens, $1.50 each; six for..... 8.00
Selected tested, $2.00 each; six for..... 10.00

We have **100,000 Folding Cartons** on hand, and so long as they last we will sell at $4.00 per 1,000, with your address printed on in 2 colors; 500, for $2.75. At above price you can not afford to place comb honey on the market without cartoning it. Address all orders to

H. G. QUIRIN, Parkertown, Ohio.

(Parkertown is a Money-Order Office.

By contract this ad. will appear twice per month only. 14E13t

Lone Star QUEENS.

Breeder of FINE **ITALIAN QUEENS**

G. F. Davidson & Sons,

Establisht 1885. FAIRVIEW, Wilson Co., TEX.

12A1f Please mention the Bee Journal.

Bee-Supplies

We are distributors for ROOT'S GOODS AT THEIR PRICES for southern Ohio, Indiana, Illinois, West Virginia, Kentucky, and the South.

MUTH'S SQUARE GLASS HONEY-JARS, LANGSTROTH BEE-HIVES, ETC.

Lowest Freight Rates in the country. Send for Catalog.

C. H. W. WEBER,

Successor to C. F. MUTH & SON,

2146-48 Central Ave., CINCINNATI, O.

ALBINO QUEENS If you want the most prolific Queens—If you want the gentlest Bees—If you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.

11A26t **J. D. GIVENS, LISBON, TEX.**

Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application. BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

Please mention Bee Journal when writing.

to talk to a number of bee-keepers, and I always speak a good word for the "Old Reliable," but it seems to be hard to induce some of them to take a good bee-paper, and thereby inform themselves along the line of bee-culture. I have taken the American Bee Journal for about nine years, and I don't see how I could keep bees without it.

A. J. FREEMAN.

Neosho Co., Kans., March 5.

Rendering Beeswax.

With reference to the color of wax I would like to say a few words in regard to my experience with the wax that I have melted during the past five or six years. It is true that there are two kinds of wax, and that both may be produced in the same apiary, but I believe the foreign particles have a good deal to do with the color of wax, just as they would have with hot water or hot lard, giving them a dull, dirty appearance that no amount of slow cooling will brighten. The secret of bright wax does not lie in the slow cooling, but in the melting, which should be very slow. I extract the wax in a solar extractor, then put it in an earthen pot, and set the pot in a dish-pan full of cold water, setting it on the stove and allowing it to come to a point where the wax begins to melt. Then I push it back and let it melt as slowly as it will, and that is about 20 pounds a day. As fast as it melts I dip it off and put it into molds, which I have sitting in hot water. This allows slow cooling so that the dirt may settle. I sell it in small cakes weighing about two ounces each for 7 cents a cake.

My bees are wintering well.

ROBERT J. CARY.

Fairfield Co., Conn., Feb. 25.

Belgian Hares and Bees.

Prof. Cook was right in saying that Belgian hares were all right to combine with the bee-business, as few animals can be found that will yield more profit than Belgian hares. This can not be said of bees in this locality, as we have had nothing but short crops and failures for over 10 years, which has made it necessary for me to add something else to bee-keeping.

Last season was one of the poorest we have ever had. I did not get a pound of surplus honey, and had to feed sugar-syrup in order to keep the queen-rearing colonies in good condition for rearing queens.

After purchasing the Belgian hares the first and most important thing is to have a place for them that is dry and well ventilated, as they can not stand dampness, but can endure almost any amount of cold if they are dry and not exposed to a draft.

They are reared in a small room called a hutch, about 2x4x2 feet, or larger if convenient. Place a nest in one end of it, 1x2x1

We want ✲

To sell you BEE-SUPPLIES!

Our line is all new and complete. Send for our Illustrated Catalog; it will convince you that our Dovetail Hive is the best on the market. Our prices are right, and our service is prompt.

Fred W. Muth & Co.

S. W. Cor. Front & Walnut Sts., CINCINNATI, O.

Please mention Bee Journal when writing.

BEES WANTED!

50 TO 75 COLONIES.

If you have any for sale write to H. G. QUIRIN, PARKERTOWN, OHIO. 13A4t

BEE HIVES, SECTIONS AND ALL BEE-KEEPERS' SUPPLIES.

Big Catalog Free. Write now. **Leahy Mfg. Co.**, 2415 Alta Sita, E. St. Louis, Ill.

6A1f Mention the American Bee Journal.

HORSE-HIGH!

... BULL-STRONG ...

With our **Duplex** Automatic Ball Bearing Woven Wire Fence Machine, any farmer can make 100 Styles, and from **50 to 70 rods a day** of the best and most practical fence on earth at a cost for the Wire to make it of from **20 to 30c. per rod**

We sell Ornamental Fence and Gates, Farm Fence and Gates, Plain, Barbed and **Coiled Spring Wire** direct to the farmer at wholesale prices. Catalogue free.

KITSELMAN BROS.
Box D51, **Muncie, Ind.**

Please mention Bee Journal when writing.

POULTRY BOOK FREE, 64 pages, illustrated with 3 mos. trial subscription to our paper, 10c INLAND POULTRY JOURNAL, Indianapolis, Ind

Tennessee Queens!

Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3½ miles apart, and mated to select drones, $1.50 each; untested warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None imper within 3, and but few within 5 miles. 28 years' experience. Discount on large orders. Contracts with dealers a specialty. **JOHN M. DAVIS,**

6A26t **Spring Hill, Tenn.**

Please mention Bee Journal when writing.

PAN AMERICAN EXPOSITION.

Nothing since the World's Fair, at Chicago, in 1893, has elicited the widespread interest that is manifest, all over the world, in the Pan-American Exposition, which is to be held in Buffalo, from May 1 to Nov. 1, 1901.

The purpose of the Exposition is to illustrate the progress of the countries of the Western Hemisphere during a century of wonderful achievements, and to bring together into closer relationship the people composing the many States, Territories and Countries of the three Americas. Acting under proper authority, the President of the United States has invited all the Republics and Colonies of the American Hemisphere to join in commemorating the close of the Nineteenth and beginning of the Twentieth Century, by holding this International Exposition on the Niagara Frontier.

For this important event, the Nickel Plate Road has issued an attractive, descriptive folder-pamphlet, elaborately illustrating the Pan-American Exposition, the buildings and grounds.

The Nickel Plate Road is the short line between Chicago and Buffalo, and affords competent train service from Chicago to Buffalo, New York City, Boston, and all points East, with trains of modern equipment, on which no extra fares are charged; also dining-car service of the highest order. It affords meals in its dining-cars on the individual club plan, ranging in price from 35 cents to $1.00.

Call on any ticket agent for Pan-American folder of the Nickel Plate Road, or address John Y. Calahan, General Agent, 111 Adams St., Chicago.

Parties desiring hotel or rooming accommodations at Buffalo or Niagara Falls, during any period of the Pan-American Exposition, are invited to apply by letter or otherwise to F. J. Moore, General Agent, 291 Main St., Buffalo, N. Y. No. 4—12A3t

feet. Here the doe will make her nest from soft litter that should be given her about two weeks before she kindles. She will make a hole in this litter, and line and cover it with her own fur. She nurses her young late only at night and early in the morning, and if she ever lies with them I have not seen her.

The feeding is also an important point. The standard feed for them is alfalfa or clover hay with oats, bran or chaff. Does with litters should be given extra care and feed, especially if the litters are large, and they quite frequently number 11 and 12. Bread and milk is easily digested, and is good food for the youngsters from the time they are born to the 16th or 20th day thereafter. Feed should be furnisht to all nursing does, as neglect at this time would interfere with the flow of milk, and cause the loss of the litter. We usually keep feed before them all the time, so that they may eat when they feel inclined to do so.

The meat of the Belgian hare is very good, and as they breed the year around we have a supply of choice fresh meat every day in the year.

The Belgian bares make nice pets if treated kindly, and especially delight the children.

Page Co., Iowa, March 7. J. L. STRONG.

Quality and Price.—One of the first things the successful business farmer learns is that it does not pay to buy cheap and shoddy goods—"cheap and nasty"—some one has called them. We believe that this is especially true of vehicles. It takes good material to make a good carriage or buggy, and good material costs money. It's the same way with the work that goes into it; it cannot be built for nothing. So when we see a vehicle advertised at an extremely low price we are apt to think that it is dear at any price, and so it is, for a shoddy vehicle, besides never looking well, costs more than a good one for repairs, to say nothing of the danger of breaking your neck every time you get into it. But, on the other hand, a man need not pay a fancy price to get a really good job, especially when he can buy a first-class vehicle from the maker direct. Take the famous Split Hickory Vehicles, for example. Now that the manufacturers of these well-known goods have decided to discard jobbers and dealers and sell direct to customers, you can buy a vehicle which you know is right all the way thru, a vehicle with a written warranty behind it, shipt to you on approval, for one-third less than dealers ask. There is not a better line of vehicles in the world than the "Split Hickory." Not only are they substantially made, but they have a style and finisht appearance found in few makes, and a dozen little conveniences covered by patents, which make them the leaders wherever introduced.

The new catalog, showing Split Hickory styles, is a most valuable book on vehicles, containing many things every owner of a carriage should know, whether he buys a Split Hickory or not. A copy will be sent to any interested reader who addresses the Ohio Carriage Co., 6 West Broad St., Columbus, Ohio. Please mention the American Bee Journal when writing.

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to

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FOR HIS

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Liberal Discounts to the Trade.

TWENTY MILLIONS IN GOLD

From Alaska during the year 1900.

Five millions of this came from the Nome district. Government officials estimate the output from the Nome district will be doubled the coming season. The Bluestone, Kougarok and Pilgrim rivers have been found very rich. There is hardly a creek from Port Clarence to Norton Sound in which the precious metal is not found, and hundreds of creeks unprospected. A rich strike has been made on the Yellow river, a tributary of the Kuskokwim.

For full information regarding routes, steamship accommodations and rates to all points in Alaska, address C. N. Souther, General Agent, Passenger Department, C. M. & St. P. R'y, 95 Adams Street, Chicago. 13A3t

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Do You Want a

High Grade of Italian Queens

Or a CHOICE STRAWBERRY?

CHICAGO, ILL., Jan. 28, 1901.

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Dear Sir:—Your quotations on 48 untested Italian Queens, ready for delivery by May 18, 1901, at hand. It being the first offer out of several inquiries, and, besides, you having promptly favored me with queens last year, you may, in appreciation thereof, have the order.

Yours truly, L. KREUTZINGER.

Prices for May and June:

Number of Queens	1	6	12
GOLDEN QUEENS.			
Untested	$1.00	$ 5.00	$ 9.00
Tested	1.25	7.00	11.00
Select Tested	2.00	10.00	17.00
Breeders	5.00		
HONEY QUEENS.			
Untested	$1.00	$5.00	$ 9.00
Tested	1.25	7.00	11.00
Select Tested	1.50	8.00	13.00

Safe arrival guaranteed. Descriptive price-list free.

D. J. BLOCHER, Pearl City, Ill.

14E6t Please mention the Bee Journal.

The Rural Californian

Tells all about Bees in California. The yields and Price of Honey; the Pasturage and Nectar-Producing Plants; the Bee-Ranches and how they are conducted. In fact the entire field is fully covered by an expert bee-man. Besides this the paper also tells you all about California Agriculture and Horticulture. $1.00 per year; 6 months, 50 cents. Sample copies, 10 cents.

THE RURAL CALIFORNIAN,

218 North Main Street, - LOS ANGELES, CAL

The American Poultry Journal

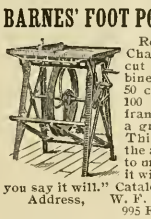
325 Dearborn Street, CHICAGO, ILL.

A Journal that is over a quarter of a century old and is still growing must possess intrinsic merit of its own, and its field must be a valuable one. Such is the

American Poultry Journal.

50 cents a Year. Mention the Bee Journal.

BARNES' FOOT POWER MACHINERY



Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey racks, 500 brood-frames, 2,000 honey boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

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Please mention Bee Journal when writing.

THE MODERN FARMER & BUSY BEE.

EMERSON TAYLOR ABBOTT, Editor.

A live, up-to-date Farm Journal with a General Farm Department, Dairy, Horticulture, Livestock, Poultry, Bees, Veterinary, Home and General News. Edited by one who has had practical experience in every department of farm work. To introduce the paper to new readers, it will be sent for a short time to New Subscribers, one year for 25 cents. Sample copies free. Best Advertising Medium in the Central West. Address,

MODERN FARMER,

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BEES QUEENS

FREE Catalogue. Smokers, Sections, Comb Foundation and all Apiarian Supplies sharp. Send for E. T. FLANAGAN, Belleville, Ill.

Please mention Bee Journal when writing.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, March 20.—The choice grades of white comb honey sell at 16 cents, with supply about equal to the demand; all other grades are slow of sale at the following range of prices: Fair grades of white, 14@15c; best ambers, 12@13c; mixt colors, 10@11c; buckwheat, 9@10c. Extracted, white, ranges from 7@8c; amber, 6½@7½c; buckwheat, 5½@6½c. All of the extracted is governed by quality and flavor in the range of prices, the lowest figures in either of the colors applies to the sour, or off-flavored, and unripened. Beeswax, 30c.

R. A. BURNETT & Co.

NEW YORK, March 19.—Our market is virtually bare of comb honey, and there is a fair demand for all grades. Fancy white is still selling readily at from 15@16c; No. 1 white at from 13@14c; amber at from 12@13c; buckwheat, 10@11c, according to quality and style of package.

As to extracted, the market is quiet and inactive, and a certain amount will have to be carried over again. Prices are declining somewhat, and if the honey is not moved in large lots, concessions will have to be made. We quote: California white, 7@7½c; light amber, 6½@7c; other grades and Southern, 65@75c per gallon. Beeswax very firm at 28@28½c, and for exceptionally fine yellow, 29c.

HILDRETH & SEGELKEN.

BUFFALO, March 21.—Much better demand for fancy comb at 15@16c; extras, 17c; common, dark, etc., 9@10 to 14c. Extracted, 6@8c, and never in much demand. BATTERSON & Co.

OMAHA, Mar. 30.—Demand fair; stocks light. Fancy white comb, 15@16c. Extracted moving slowly at 7@8c for white. We do not look for any particular change for the balance of the season, as present supply will just about be sufficient to supply the trade until new crop gets into market. PEYCKE BROS.

DETROIT, Mar. 21—Fancy white comb, 14@15c; No. 1, 13@14c; dark and amber, 10@12c. Extracted, white, 6½@7c; amber and dark, 5@6c. Beeswax, 27@28c. M. H. HUNT & SON.

CINCINNATI, March 21—The demand for comb honey is nearly over, the stock of it also well cleaned up. Fancy white brings yet 16c. Extracted is in fair demand; dark sells for 5½c; better grades bring 6@7½c; fancy white clover from 8½@9c. C. H. W. WEBER.

KANSAS CITY, Mar. 23.—Receipts light; demand normal at steady prices. Fancy white comb, 15@16c; no amber on market. Extracted, 8@9c. Beeswax scarce, steady demand, 25@30c.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

ALBANY, N. Y., March 23.—Honey market is slow on all grades of comb honey. Extracted, white, 7@8c; dark, 5@5½c. H. R. WRIGHT.

BOSTON, March 21.—Fancy No. 1 white in cartons, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. Absolutely no call for dark honey this year. Extracted, white, 8@8½c; light amber, 7½@8c. Beeswax, 27c.

BLAKE, SCOTT & LEE.

SAN FRANCISCO, Feb. 6.—White comb 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber, 6¾@7¼c; amber, 5¾@6¼c. Beeswax, 26@28c.

Considering the light output of honey last spring from California apiaries, present offerings are of tolerably liberal volume and are mostly of amber grades. The market is slow at the quotations. It is reported on good authority that adulterated and imitation honey is being dealt out to considerable quantity, which accounts in a great measure for the very limited business doing in the pure article.

1901—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog.

M. H. HUNT & SON, Bell Branch, Wayne Co., Mich.

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105 Park Place, - NEW YORK, N. Y.

13A26t Please mention the Bee Journal.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

WANTED!

25 to 50 colonies of bees in good condition. Must be cheap.

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165 S. Forest Ave.,
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SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	70c	$1.20	$2.75	$5.00
Sweet Clover (yellow)	$1.50	2.80	6.25	12.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	90c	1.70	3.75	7.00
White Clover	90c	1.70	4.00	7.50
Alfalfa Clover	80c	1.40	3.25	6.00
Japanese Buckwheat	30c	.50	1.00	1.60

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.

200-Egg Incubator for $12.00

Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.
GEO. H. STAHL, Quincy, Ill.

46A25t Please mention the Bee Journal.

I ARISE

To say to the readers of the BEE JOURNAL that

DOOLITTLE...

has concluded to sell QUEENS in their season during 1901, at the following prices:

1 Untested Queen	$1.00
3 Untested Queens	2.25
1 Tested Queen	1.25
3 Tested Queens	3.00
1 select tested queen	1.50
3 " " Queens	4.00
Select Tested Queen, last year's rearing	2.50
Extra selected breeding, the very best	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t Borodino, Onondaga Co., N. Y

24th Year Dadant's Foundation. 24th Year

We guarantee satisfaction. ⁂

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED-PROCESS SHEETING.

Why does it sell so well? ⁂

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

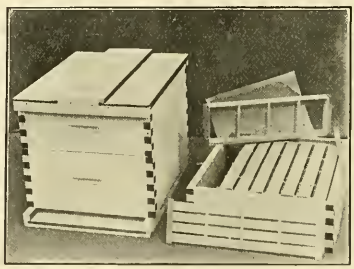
Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

LANGSTROTH on the HONEY-BEE—Revised
The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

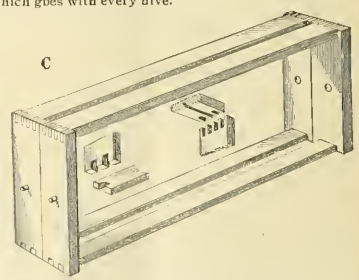
The Danzenbaker Hive.



THIS HIVE is rapidly gaining favor, especially in the Eastern States, where tall sections and closed-end frames are used to a considerable extent; and within the last year or so the Danzenbaker system has been working its way into California, Oregon, and even into Cuba. At the Paris Exposition the hive was awarded a gold medal, and at some of the honey exhibits in this country the comb honey from it has carried off the first prize. Some of the finest honey we have ever seen was produced in Danzenbaker sections; and in the opinion of those who have given the hive and system an extended trial, there is nothing to equal it for the production of a fine article of comb honey. Indeed, in some markets comb honey in Danz. sections commands one and sometimes two cents more per pound than other fancy honey.

Mr. Danzenbaker has long been an advocate of warm supers and warm hives; for he has always insisted that, for the production of comb honey, the super and hive must be warm in order to do the best work in wax-building. To a very great extent the Danzenbaker hive is double-walled; and the sections in the super are especially protected by a special paraffine mat which goes with every hive.

The brood-chamber itself has the same dimensions as the regular 10-frame Dovetailed Langstroth hive, except that it is shallow; that is, it takes 10 closed-end brood-frames 7½ inches deep and 17 inches long. Each brood frame is supported by a pivot in the center of the end-bars, so that it may be readily reversed. These brood-frames retain all the advantages of frames peculiar to this class; viz., being reversible, they insure the building of combs to the bottom-bar; as there is no opportunities for air-currents around the ends of the frames, combs, as a rule, are built clear out to the end bars. This one feature makes them warmer for winter. When a division-board is used on each side we have, practically, a dead-air space around the ends and sides of the brood nest.



The Danz. brood-nest has the same capacity as the 8-frame Dov. hive—a capacity that has generally been recognized as the best for the production of comb honey. But Mr. Danzenbaker has gone further by making his brood-nest shallower and wider—increasing the amount of surface for the super, and bringing the brood itself—a feature which many consider important—closer to the surplus.

The Danzenbaker brood-chamber can be used with any of our 10-frame supers, either comb or extracted; with any of the 10-frame covers, bottoms, or hive-stands, or with the 10-frame Jumbo hive. There are four patents on the Danz. hives and fixtures.

NOTICE.—The Danzenbaker hive is not made in the 8-frame widths.

THE A. I. ROOT CO., Medina, Ohio.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., APRIL 11, 1901.

FORTY-FIRST YEAR No. 15.

WEEKLY

MISS ADA L. PICKARD,
Secretary of the Wisconsin State Bee-Keepers' Association.

THE AMERICAN BEE JOURNAL.

PUBLISHT WEEKLY BY

GEORGE W. YORK & Co.

144 & 146 Erie St., Chicago, Ill.

Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50c a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec01" on your label shows that it is paid to the end of December, 1901.

Subscription Receipts—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey commissionmen.

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ERNEST R. ROOT, President.
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Or, Manual of the Apiary,

—BY—

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A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book publisht to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipt, or his library complete, without THE BEE-KEEPERS' GUIDE.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

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Red Clover Queens

LONG-TONGUED BEES ARE DEMANDED NOW.

ONE Untested Italian Queen FREE as a Premium for sending us TWO new subscribers to the American Bee Journal for one year (with $2); or, one Tested Queen free as a premium for sending us FOUR new subscribers (with $4.00.)

We have arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us the coming season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

Orders for these fine, "long-reach" queens will be filled in rotation—"first come, first served"—beginning about June 10th. It is expected that orders can be filled quite promptly, as a large number of nuclei will be run. All queens will be guaranteed to arrive in good condition, and all will be clipt, unless otherwise ordered.

CASH PRICES of these fine queens will be as follows: Untested, $1.00 each; Tested, $2.00 each. Send all orders to

GEORGE W. YORK & CO.
144 & 146 Erie St., CHICAGO, ILL.

28 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 28 cents a pound—CASH—for best yellow, upon its receipt, or 30 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., CHICAGO.

Best White **Alfalfa or Basswood Extracted Honey**

ALL IN 60-POUND TIN CANS.

ALFALFA HONEY.....

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.

BASSWOOD HONEY.....

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms in Wisconsin. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

A sample of either, by mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. The cans are boxt.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

Address,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., APRIL 11, 1901. No. 15.

Editorial Comments.

Make Haste Slowly is very good advice. Mr. Doolittle, in the Progressive Bee-Keeper, says: "Being hasty in adopting new methods and ideas is unwise. Test them thoroly before entering into them largely. Heavy investments, once in a great while, give large returns, but only too often failure follows, unless one makes haste slowly. Especially is this true of apiculture." Verily, the one who is wise enough to hasten slowly is likely to be here longer, or have the larger success with bees.

Sowing Sweet Clover Seed.—As several of our readers have requested directions for sowing sweet clover seed, we will quote from those who have had much experience, as reported in Gleanings in Bee-Culture:

Mr. H. R. Boardman, of Huron Co., Ohio, writes this paragraph:

"For field culture I would sow sufficient seed to get a good liberal catch, and not sow more land than I could and do this. Half a bushel to the acre of the unhulled seed is not too much. The spring of the year I think the best time to sow it. It will make a good catch on winter wheat or rye ground, but I think I should prefer to harrow or cultivate it in deep with a light crop of oats."

Mr. G. J. Yoder, of Cass Co., Mo., gives the following about where sweet clover should be sown, and something about cutting and thrashing the seed:

"It will grow almost anywhere, even on very rocky hillsides and waste lands, but I prefer to sow where I can keep control of it and get a crop of bloom and a crop of seed; then the next spring a crop of some kind, and in the fall a crop of hay, or to wheat in the fall, and in the next fall a crop of hay.

"Every other year it reseeds itself; but if put to cultivated crops a few years it can all be killed out. I made a garden-spot on a sweet-clover patch where there were millions of seeds, and in two years it was all gone.

"With us it grows from four to eight feet high, thus making it almost impossible to get it into a thrasher or buller. We cut it with a self-rake reaper, then make a platform on a 16-foot hay-rack, placing it on a skid made of poles bolted together with cross-pieces; then hitch three horses to it, and pull it to the field. With two light poles about eight feet long, and just heavy enough for a man to handle, and two pitch-forks, we are ready for business. Now fill your platform, not too full; and if the clover is very dry, a few good strokes will land the seed in the bottom of the platform. Now tumble out the refuse; drive up, put more on, and so on around the field. A little experience will show how it should be done. When all is thrasht off, run it thru a buller, and you have the Bokhara seed."

Mr. Wm. Stolley, of Hall Co., Nebr., in an article in the American Bee Journal for the year 1895, wrote this paragraph:

"Treating melilot exclusively as a forage-plant, I will say that I have sown 15 pounds of seed to the acre, and secured a good stand. I have sown early in the fall, so as to insure good rooting of the young plants before frost; and I have sown also late in winter, so as to allow the seed to take advantage of the early spring moisture, with the same satisfactory results. Even the stubble of small grain, or a corn-field, is good enough for sweet clover without further cultivation, except a slight harrowing, and it will take care of itself in this part of the world. I have frequently scattered the seed indiscriminately on vacant places, along public roads, where noxious and worthless weeds were growing, and three years later the sweet clover had run out the weeds entirely. But let me state right here, that sweet clover growing on and alongside of public highways should be cut about June 20th, so as to dwarf the growth of the plants. If this is neglected, sweet clover is likely to grow so rank and high as to make it a nuisance in winter, by causing the drifting snow to bank up, thus making the public roads impassable. Many rank weeds, however, generally growing now on public roads, are just as objectionable in this respect as sweet clover. By mowing it the middle or 20th of June (not later, if the aim is to make it profitable for the apiarist as a honey-producer), sweet clover will furnish bee-pasturage until frost kills all growing vegetation, and is not objectionable in any way to anybody if growing on the public highways; on the contrary, it is attractive, its perfume is delicious, and it keeps the roads in good condition. In a mild and late autumn I have seen melilot thus treated blooming in December, and the bees at work on it here in Nebraska."

The National Bee-Keepers' Association.—In pursuance of suggestions offered some time ago, and also because of the real need existing, General Manager Secor has gotten out a neat circular containing the Constitution of the Association on one side, and "A brief outline of the rise and progress of bee-keepers' societies in America, and the aims and purposes of the present organization." While every bee-keeper can have a copy by simply asking Mr. Secor for it, we believe that his epitomized statement concerning the National Bee-Keepers' Association and its predecessors is of sufficient interest to deserve a permanent place in these columns. It reads as follows:

RISE AND PROGRESS OF BEE-KEEPERS' ASSOCIATIONS IN AMERICA.

The first American bee-keepers' society, of which I can find any record, was organized at Cleveland, Ohio, March 15, 1860.

At that time there were no periodicals devoted to the pursuit of bee-keeping, the American Bee Journal having been establisht later—in 1861.

The first American bee-keepers' society of *national* importance was organized at Indianapolis, Ind., Dec. 21, 1870. It was called the "North American Bee-Keepers' Association," and included the United States and Canada. The Rev. L. L. Langstroth, of blessed memory, was its first president.

The following year the name was changed to "North American Bee-Keepers' Society," under which name it continued until 1888, when it was changed to "Inter-National Bee-Association."

When the above-named society was organized scientific bee-keeping was in its infancy. The annual meetings held were beneficial chiefly for their educational value. No conflicts had arisen between fruit-growers and bee-keepers, and the adulteration of honey had not become a menace to the industry because commercial glucose was unknown.

BEE-KEEPERS' UNION.

But in the year 1885 a Wisconsin bee-keeper, Mr. Freeborn, was sued by a neighbor who kept sheep, for alleged annoyance to his flock by Mr. Freeborn's bees. As the Constitution of the Inter-National Association did not provide for the defense of its members, an independent organization was formed for that purpose, called the "National Bee-Keepers' Union." This "Union" never held a meeting, all its work being done by correspondence, and the annual report of its General Manager publisht thru the bee-journals. From 1885 to 1899, inclusive, its General Manager, Thomas G. Newman, was ever alert to the dangers threatening bee-keepers, and to the extent of its limited resources was very efficient in their defense. The successful defense of Mr. Freeborn, the vindication of California bee-keepers when attackt by ignorant or jealous fruit-growers, the magnificent triumph in the Arkadelphia case, and many others, where the above-mentioned precedents were quoted effectively, thus avoiding lawsuits, vindicates the wisdom of its organization.

In the year 1896 the Inter-National Society voted to change its name to the "United States Bee-Keepers' Union," and adopted a new Constitution, making it protective in its aims, as well as educational and social, and for three years both "unions" workt along similar lines of defense, altho the last-named Union was also aggressive, and proposed to fight adulteration.

AMALGAMATION.

But in December, 1899, the two unions consolidated under the new name of "National Bee-Keepers' Association." What the latter has done since its marriage, and what the United States Bee-Keepers' Union did before amalgamation, has been made public thru the annual reports of its General Manager, but it may not be out of place again to call attention to its aims and purposes, and to some of its most important cases.

The present Constitution defines the objects of the Association to be:

1st.—*To promote the interests of bee-keepers.* The educational work of the Association is intended to benefit the pursuit of apiculture in the broadest sense, especially in our own country. This object will not have been reacht until every bee-keeper within the bounds of the

Association's influence gets every possible profit and delight out of his bees.

2d.—*To protect and defend its members in their lawful rights.* We maintain that bee-keeping is a lawful and honorable occupation, as old as history, and as much deserving of protection as any other rural pursuit, but ignorance and jealousy are not yet outgrown, and bee-keepers are sometimes annoyed and threatened unless they understand and maintain their rights. An efficient organization can do much good toward this end, as has already been proven.

3d.—*To enforce laws against the adulteration of honey.* This is a matter that needs and is receiving the aid and encouragement of the Association. Pure food is of vital importance, and where the legislature of any State has enacted laws to protect the purity of honey this Association purposes to spend money if necessary to enforce them. Pure honey can not be produced and sold in competition with glucose syrup, and as this substance is the chief adulterant of honey, there is need of anti-adulteration laws in every State, and strict inforcement of the same.

SOME OF THE THINGS THIS PRESENT ORGANIZATION HAS DONE.

It has endeavored to prevent quarrels and litigation. The present Manager is for peace if it can be obtained honorably. He does not carry a chip on his shoulder daring some one to knock it off. He tries to avoid troublesome lawsuits, and believes he has done so in many cases. This doesn't bring any glory to the Association, but it is beneficial and praiseworthy nevertheless.

With that object in view, a 12-page pamphlet on the benefits of bees to horticulture, and the danger and uselessness of spraying when trees are in bloom, has been prepared for distribution where needed.

Many jealous neighbors have been deterred from threatening attacks on bee-keepers by judicious circulars and letters.

The aid given by this Association to prosecute adulterators of honey in Chicago, in 1899, had a wholesome effect, as we have been credibly informed. If not all was accomplisht which was desired and aimed at, the results hastened the branding of adulterated honey in that city, so as to denote its true character.

During the fall of 1900 there appeared in many of the Eastern papers highly sensational accounts of a lawsuit between a fruit-grower and bee-keeper in the State of New York. The contention was that defendant's bees had ruined plaintiff's crop of peaches. In justice court the bee-keeper lost. The Association had the case appealed, and after a thoro trial, at which every argument and artifice known to skillful lawyers was resorted to by plaintiff, the Association produced enough expert evidence to completely turn the tide, and the bees were exonerated. Had this case gone the other way there is no knowing how many other bee-keepers would have had to quit business or defend a like suit.

The winning of this case, and the valuable precedent establisht, which will be quoted in all the courts of the country for years to come, is a trimmph for the National Bee-Keepers' Association, and worth many times its cost.

If an Association for mutual protection and the general advancement of the art and science of apiculture meets with the approbation of any bee-keeper who is not already a member, he is hereby invited to co-operate.

The annual membership fee is $1.00. It may begin at any time desired, and the amount sent to the undersigned will be duly entered and ackowledged. EUGENE SECOR,

Forest City, Iowa. *General Manager and Treasurer.*

The Number of Drones Needed in an apiary is a thing upon which all are not yet agreed. At this time of year, when one begins to plan for the next season, it may be well to make an effort to have one's ideas somewhat settled on the subject, so as to know whether to encourage the production of drones or to discourage it by controlling the kind of comb in the hive. Mr. Dadant's series of articles on this subject will be of great service in the way of helping to decide this question.

The first objection likely to be urged against allowing the presence of many drones is that it is allowing a horde of useless consumers that add nothing to the common store. But if they are of service in other ways, they may earn the food they eat without gathering it for themselves.

It can not be denied that drones may be of real service to help keep up the heat of the colony, but it is replied to this that in the spring, when there is the most need of heat-producers, the drones are wanting, and when they are present in numbers the weather is so hot that a set of fanners must keep at work to make their lordships comfortably cool. Further, it is argued that a pound of workers are just as useful in keeping up the heat as a pound of drones; so the argument for drones as heat-producers is hardly valid.

In an aplary of 50 colonies thousands of drones are flying that are never needed. Why not restrict the number to the 50 or 150 that will actually meet the virgin queens? The answer is not difficult. With the large number always present, it has been many times observed that a virgin makes a successful flight not until the second or third attempt. If no drones were in the air except the one she was expected to meet, the chance of such meeting would be rather small, and the chance of being caught by some bird rather large. Besides, when a large number is present, there is a chance for selection. The most active and vigorous drone is the successful one, and this tends to the improvement of stock. One has but to observe Nature to note that each colony has a large number of drones, and it may not be wise to make so violent a departure from Nature as to suppress nine-tenths of the drones she would provide.

But it is a departure from Nature to mass 10, 50, or 100 colonies in one place, and no more drones are needed for the whole lot than would be needed for a single colony. Consequently the drones may be restricted to two or three of the best colonies, thus adding greatly to the selection of the best.

So the probability is that in the average apiary there need be no anxiety lest there be a lack of drones, and the wise bee-keeper will take advantage of this by seeing that no drones are encouraged in mediocre colonies, but that they are suppress in all but a few of the very best. If more attention were given to this, there would be a distinct increase in the average yield of honey per colony.

The Weekly Budget.

Frank B. White.

THE FRANK B. WHITE COMPANY, of Chicago, is one of the cleanest and most honorable advertising firms in the world. It is an organization of young men who are banded together to handle the advertising for such firms or business men as desire to use the columns of the general agricultural press. Mr. Frank B. White is the much-respected president or head of the Company, and a man whom to know is to love. Recently he conceived the idea of tendering a dinner or banquet, and sent out invitations, the following being a sample:

CHICAGO, March 20, 1901.

MR. GEORGE W. YORK, Editor American Bee Journal.

Dear Sir:—I desire to give my business associates, and those occupying the more responsible positions in connection with our business here, a dinner at the Union League Club, Thursday evening, March 21st, at 6:30 p.m., and I trust nothing will prevent your being present.

Very truly yours,

FRANK B. WHITE.

Of course we were there, and it was a most delightful occasion. After doing full justice to the bountcous and tempting viands placed on a circular table before the assembled guests, several hours were spent in "after dinner" toasts or short speeches. There were about 20 of the employees of the firm present, and those financially interested. Each department of the rapidly developing business was called on to respond to an assigned topic, and each indicated the sprouting of Chauncey Depew wings of eloquence and wit, Mr. White, as host, speaking first.

The last speaker was the editor of the American Bee Journal after which one of the prominent employees presented to Mr. White a written and signed expression of appeciation and esteem in which he is held by all the employees. It was a sincere testimony, and one highly prized by the recipient, who merits all the kind things that were said of him on that enjoyable occasion.

* * * * *

MR. C. THEILMANN, of Wabasha Co., Minn., about six weeks ago met with a serious accident, his horses running away with him in a sleigh. He was thrown out on a lot of logs lying along the roadside, while the horses were going at a furious rate of speed. They were frightened by dogs running against them, causing them to become unmanageable. While no bones were broken, Mr. T.'s neck and hips were badly bruised and strained. He is improving slowly, we are glad to report, and all will unite in the hope that he may soon fully recover.

* * * * *

PROF. COOK having been quite sick recently accounts for the non-appearance of "The Home Circle" department in several issues. He has recovered now, so we trust that all may go on again without further interruption after this week.

Convention Proceedings.

Report of the Wisconsin Convention.

BY ADA L. PICKARD.

The 17th annual convention of the Wisconsin Bee-Keepers' Association was held at Madison, Feb. 5 and 6, 1901.

The meeting opened with a fair attendance considering the small honey crop the bee-keepers secured last year, and the number of Wisconsin bee-keepers who attended the national convention held in Chicago.

Pres. N. E. France askt the convention to come to order, and opened the meeting with well-chosen remarks, after which the secretary read the minutes of the last meeting, which were approved.

The opening session was largely devoted to the discussion of a bill which had been introduced in the Wisconsin Assembly, providing that the number and value of the colonies of bees be inserted in the assessment rolls, the same as other personal property. The bill further provided that if colonies of bees be moved about from place to place for the purpose of extracting honey, the owner shall pay a license fee of $1.00 per colony for each month or part of months. When that bill was introduced the State bee-hive was kickt, and each individual made a great roar. The bill was discust very thoroly. The bee-keepers did not object to the taxation of bees as the majority now pay taxes on their bees, but it seemed that the assessment varied greatly, and seems very unjust. Thruout the State bees have been assest from 25 cents to $1.50, and even as high as $2.00 per colony, according to the one who was assessor. The unanimous voice of the bee-keepers favored the taxation of bees, for if bees were taxable property we could claim protection from the State.

It was the latter part of the bill to which the objection was offered. On motion a committee was appointed by the president for the purpose of going before the legislative committee to oppose the bill. The committee appointed was: N. E. France, Jacob Hoffman, Elias Fox, and Ada L. Pickard. At an appointed time the committee went before the legislative committee, and thru the work of the committee and the united efforts of the Bee-Keepers' Association, the bill has been indefinitely postponed—virtually the bill is killed.

At the close of the discussion pertaining to the bill the convention stood adjourned until 1:30 p.m., when Pres. France called the meeting to order, and, on motion, Editors Hutchinson, Root, and York were made advisory members.

WINTERING BEES.

H. P. Miner read a paper on "Cellar vs. Outdoor Wintering," after which was a lively discussion. Mr. Lathrop said he had wintered bees both ways, but preferred the single-wall hives in cellars to the chaff hive. Mr. Ochsner favored the chaff hive for winter use, but not for summer, as he has had losses in combs and honey, from the fact that the chaff hive gets so hot during the hot weather, causing the combs to melt down. If chaff hives were used in winter, he suggested that they be transferred to single-wall hives in May. The discussion was summed up in not so much how or where to winter the bees, but to strike the key-note of success depends upon getting the workers at the proper time for your location.

A recess was given the members for the opportunity of paying the dues to the State and National Associations, and the dollars rolled in almost faster than the secretary could book the names.

H. Lathrop read a paper on "How to maintain the present prices of honey in the event of a good honey crop." In speaking of the good prices of honey he said, "Dealers go thru the country and buy up the honey from small producers, put it up in good shape and sell it for a good price. It is better to sell to the jobber if not willing or able to hold for good prices; never sell at low prices to retailers."

QUES.—Is there any simple method of detecting adulteration in extracted honey? ANS.—Mix equal parts of honey and wood-alcohol together; stir until thoroly mixt. If sample contains glucose it will turn cloudy, if not it will remain clear. It does not make any difference what kind of honey you test.

QUES.—How can aster honey be kept from granulating within ten days after storing, regardless of temperature? ANS.—Do not know.

QUES.—Where is the proper place to keep extracted honey? ANS.—In a dry place.

QUES.—What is the best package for extracted honey? ANS.—(*a.*) The best package for storage and shipping is barrels. It has been found a great advantage to paraffine the barrels before using, as it saves soakage. The cost to paraffine a 350-pound barrel is about 10 cents. (*b.*) The best package for retail trade is the 60-pound tin cans, or pails holding 4, 7 and 13 pounds each.

QUES.—Does it pay to crate comb honey? ANS.—Yes. But the cases should be crated properly with plenty of straw for packing.

QUES.—How many combs should be left in an 8-frame hive for cellar-wintering? ANS.—Majority favored eight.

QUES.—Is it advisable for the State Bee-Keepers' Association to recommend an experimental apiary in Wisconsin? ANS.—Yes. It was recommended that the Association recommend an experimental apiary on the experimental farm. Mr. France offered to donate his services if such an apiary should be started. A committee was appointed to visit the experimental station, composed of N. E. France, Jacob Hoffman, and Ada L. Pickard.

An adjournment was then taken until 7:30 p.m., when the convention was most highly entertained by Editors E. R. Root and W. Z. Hutchinson, who presented their instructive and entertaining stereopticon views, which must be seen to be appreciated. Those who saw the views exprest themselves as being well paid for attending the convention, save the valuable information received from the papers read and discussions which followed.

SECOND DAY—MORNING SESSION.

The morning session opened at 9:30 with a business program. The report of the treasurer was read and approved. The election of officers resulted as follow: President, N. E. France; vice-president, Jacob Huffman; secretary, Ada L. Pickard, Richland Center; treasurer, H. Lathrop.

The judge and alternate judge of the apiarian department of the State Fair were named—F. Wilcox as judge, and N. E. France as alternate. On motion, the secretary cast a ballot recommending N. E. France as inspector of foul brood.

BEE-KEEPERS' HONEY EXCHANGE.

The secretary read a paper on "The Bee-Keepers' Honey Exchange," by C. A. Hatch, which was listened to with great interest. Mr. Root opened the discussion and mentioned the Colorada Bee-Keepers' Exchange, and said it was a good thing, enabling the bee-keepers to get supplies cheaper, but a bad thing for the supply dealer. The first thing to make the exchange a success is to have a good business man as business manager, who has the interest of every one in mind. It was thought not advisable to organize a honey exchange in this State, because the ones attending the conventions have a chance to keep in touch with the prices.

E. D. Ochsner did not read his paper on "The Outlook for the Bee-Keepers' Exhibit at the Pan-American Exposition in 1901," because an expression of the convention was taken in regard to making an exhibit, and it was thought not advisable to make an exhibit because the appropriation is so small.

F. Minnick read his paper on "Short Cuts in Extracting." It was received with much enthusiasm. A very interesting discussion followed, and many new ideas were advanced. The afternoon session was opened by Pres. France reading and discussing the laws pertaining to foul brood.

The question-box being full, it was again opened.

The agent of the Citizens' Business League, of Milwaukee, gave a very cordial invitation for the next meeting of the Association to be held in Milwaukee. On motion, the executive committee was authorized to name time and place where the next meeting shall be held. The members favored Madison.

The convention then adjourned *sine die*.

ADA L. PICKARD, *Sec.*

[The interesting papers read at the above convention will appear later, so far as we are able to secure them.—EDITOR].

"**The Hum of the Bees** in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

Contributed Articles.

No. 2.—Practical Lessons for Beginners in Bee-Culture.

BY J. D. GEHRING.

(Continued from page 199.)

AT the dinner table my wife past the honey to Mr. Bond, saying as she did so: "Honey is almost as indispensable at our table as butter, Mr. Bond. We use it at the rate of a pound per day the year thru. My husband thinks it is both food and medicine. Our children all like it, and grow fat on it. I presume you are a bee-keeper, too, Mr. Bond," she concluded, looking at him for his answer as she spoke. Mr. Bond, however, lookt at me when he answered and said:

"I guess Mrs. Gehring thiuks because you have entertained me in the honey-house I must belong to the bee-keeper fraternity; but I am quite sure that if she had seen me when I was running into her cellar with several hundred bees after me, she wouldn't have made such a bad guess." Then, turning to my wife he continued:

"Mrs. Gehring, if you had askt about the matter before 10 o'clock this morning I would have said yes. But I am now of the opinion that I am only a keeper of bees, not a bee-keeper. But I am going to take lessons of your husband. He convinced me this morning that I have a lot to learn. The fact is, I never knew until to-day that there is such a creature as a queen-bee. I inherited most of the bees I have on my farm from my father, and I guess he knew no more than I did this morning about bees, for I remember hearing him mention the 'king-bee,' but never the queen-bee, of the hive. He had some very queer notions about bees, as the Pennsylvania Dutch all have—and I never knew one that didn't keep a colony or more. You may have heard about their superstitious notion that when any one dies in the family all the bees will die, too, unless some one goes out at midnight and whispers the sad news to each hive."

"How many colonies of bees have you now, Mr. Bond?" I inquired.

"There are some 45 or more. They are not all in one place, like yours, so I can't tell exactly how many there are. You see, I have always been in the habit of leaving them just where I found the swarm when I hived it. My hives are all the old style that my father used—square boxes with cross-sticks in them."

After dinner Mr. Bond returned with me to the honey-house, and, at his request, I took him to the honey-room and showed him my 1,600 pounds of honey, all in one-pound sections, and packt in cases ready for the market. After a minute's contemplation of the stack of white boxes, Mr. Bond exclaimed: "Never, in all my life, have I seen so much beautiful sweetness!"

Returning to my work-room, Mr. Bond turned to me, before he sat down, and said:

"Now, then, Mr. Gehring, will you please tell me, as briefly and plainly as you can, how you manage to get at the rate of 100 pounds of honey to the colony, and inside of 30 days' time?"

"I can tell you plainly enough how it is done," I replied, "but I fear I am not equal to the task of telling it very briefly. It is quite a lengthy and complicated story, Mr. Bond. The best way will be, I think, to take one hive as an object-lesson, and illustrate the whole story as I go along. To do that, however, it will be necessary for you to go with me to the spot where the hive stands, so that I can explain everything to your eyes, as well as to your ears. What do you say to my plan, Mr. Bond?"

Mr. Bond did not reply as promptly as I had expected he would, having in mind his manifest enthusiasm. He lookt meditatively at the floor between his feet, twirling his straw hat slowly with his right hand, while with his left he gently stroked his nose, which, by the way, had not quite regained its normal size and color. At last he lookt up and said:

"Your plan is no doubt all right so far as you are concerned; but it looks a leedle bit risky-like for me. You see, I can't quite forget my little unpleasantness with your 'well-behaved bees' this morning."

"I can't blame you for that, Mr. Bond," I replied. "But I shall fit you out with a bee-knight armor that thoroly protects your face. Your hands you can put into your pockets, if any attack is made on them." Saying this I procured from a small closet two bee-veils and a Bingham bee-smoker, and, handing one of the veils to him, I said:

"The right kind of a bee-veil is a valuable article to any person who has to handle bees under all sorts of circumstances. This is my own invention, tho not patented. I have seen some that are patented that I wouldn't have as a gift. This one, you see, is a very simple affair, not much larger in bulk than a cotton handkerchief. I will tell you how to make one like it, then you can get the material before you go home, and show your wife how to make one:

"Take half a yard of cheese-cloth and double it lengthwise. Sew up the open side about half way. Cut the other side open to correspond with the length left open. Hem or bind the raw edges. Insert a rubber-cord into the end intended for the top, short enough to fit tightly around the crown of your hat, like a pucker-string. Now take a piece of silk bobbinet large enough to reach from the middle of your forehead to your chin, and from one ear to the other, and insert it in a square hole in the front of the upper end of your cheese-cloth sack in such a way that when the veil is in place the little silk veil is directly in front of your face. The open end of the veil—as the whole contrivance is now called—is carefully tuckt inside your vest, or your coat when you wear one—which is then buttoned up, and—there you are! Your hat-rim should not be very wide, of course, unless you make the veil a little longer than I have described. The meshes of the silk bobbinet should be rather fine, but not too close to obstruct your vision.

"Now, when you call for this bobbinet stuff at the store the clerk will possibly tell you that the cotton kind will do just as well, and is cheaper. But, let me caution you, never allow any one to induce you to take anything but just what I have told you. If you ever do, you will find out why I have warned you, without my telling it now.

"Now," I continued, "I will start this little machine we call a smoker, and then we are ready for business. Let me show you how to manage the thing properly, Mr. Bond. First, you see, I remove the end, or nozzle, taking care not to let the circular screen fire-guard drop out as I do so. Next, I take a cotton or an old linen rag, light it with a match and drop it to the bottom of the cylinder. Then I carefully drop in some more rags, gradually filling the smoker, but rather loosely, so that the fire is not extinguisht. I leave the smoker standing nozzle-end upward all this time, you see, because in that position it acts like a chimney. When it is full and well started I replace the nozzle, put a handful of fuel-rags in my coat-pocket, take the smoker and give it a few gentle puffs, and off we go."

On the way to the hive I said to Mr. Bond: "All the bee-books in use recommend the use of broken corn-cobs or punk wood as smoker-fuel. But I don't like either. Both are liable to become damp, and they are not as easy to start as rags are. Besides, when they once get under full headway in the smoker they make too much heat. When I need a smoker in a hurry—and that is almost always the case—give me cotton-rags for smoker-fuel every time."

"Well, here we are," I said, proceeding to remove the cover of the hive I had selected for the purpose in hand. Then taking the smoker and giving it two or three vigorous puffs to start a good volume of smoke, I went to one side of the front of the hive and blew smoke into the hive thru the bee-entrance for about 30 seconds, working the bellows of the smoker with slow, steady pressure, so as not to alarm the bees with the puffing noise made by the smoker when workt with a short, quick motion.

"This I do to induce the bees to fill themselves with honey," I explained to Mr. Bond, who was standing a few feet away with his hands in his pockets, watching the proceedings. "We will now wait a few minutes until they have gorged themselves."

"What do you do that for?" askt Mr. Bond. Instead of giving him a direct answer I said, "Come and put your ear down near the top of the hive and listen for a moment." Mr. Bond did so, rather reluctantly, of course, and I said:

"You hear them make a humming noise, don't you? Well, they make that noise to express their satisfaction. It makes them lazy and good-natured when they are full of honey. Bee-keepers know this, and take advantage of the fact when they have a tedious job of manipulation to perform in the apiary. These bees, you see, will be less liable to fight now, or to take wing and give the alarm signal to the hives close by."

(To be continued.)

Weak Colonies in Spring—When to Unite Them.

BY G. M. DOOLITTLE.

A CORRESPONDENT writes that many of his colonies of bees will come out weak this spring, and wishes me to tell him in the American Bee Journal when and how to unite them.

When colonies of bees come out weak in the spring, it may be beneficial to put two or more of these weak colonies together, so that one strong colony may be made from several weak ones. Some suppose that if any uniting of weak colonies is to be done, the earlier in the spring it is accomplisht the better the results will be, but from years of experience along this line I am positive that such early uniting is a mistake. From some experience several years ago, I came to the conclusion that each would go thru the early spring better alone, and to test the matter I tried the following one spring:

I had ten weak colonies and united six in one hive, three in another and left one alone, which was scarcely an average of the whole, as to strength of bees. This uniting was done the latter part of April, and in less than three weeks' time the colony formed by uniting the six was all gone. During the same time the one not united "held its own," while that where the three were put together was scarcely better than was this.

On June 10th the one having no help had by actual count 85 bees besides the queen, and the one made from the three had 105, according to an entry I find in my diary. As I was then anxious for all the bees I could get, I did the best I could with them without help from other colonies. The one having the 85 bees built up and stored five sections of honey, besides having enough for winter, the same coming from buckwheat. And other experiments made since then gave like results, so that, of late years, I have ceast altogether to unite early in the spring.

After a careful watching I find the reason for this seemingly inconsistent state of things to be, that with united colonies the bees seem to be incited to greater activity, by strange bees being thrown together, thus starting a large lot of brood, the care of which wears their life out so fast that they perish from exhausted vitality, or old age, before any young bees emerge from their cells to take their places; while those not united do very little, and rear only enough brood to take the places of those slowly dying off, thus keeping their numbers about good till settled warm weather comes, when these few (now) young bees are able to hold five times the brood they could in early spring, so that they now increase rapidly.

From the above it will easily be seen why I would not unite weak colonies early in the season. Of late years I have united just before the honey harvest, as I consider it more profitable than to let each colony go thru the season separately, as I did the one having the 85 bees. If these colonies are left to themselves, the best we can hope is that they will become strong enough in bees and honey for winter; while by uniting just before the honey harvest I secured a good yield of honey from the united colony and get the two in good condition for winter. My plan of work in uniting, and looking toward this end, is as follows:

As early in the spring as the bees can be lookt over, all of the weaker colonies are shut on as few combs as they have brood, by using a division-board to contract the hive. They are now left till warm weather comes, being sure that all have stores enough where they can conveniently reach them to carry them until this period. They are now built up as rapidly as possible by reversing the brood, etc., so that by June 1st the best of them will have five frames of brood, others four, and so on down to one for the very weakest. As soon as the best has its five frames filled with brood, down to the very bottom corners, a frame of hatching brood is given to one having but four frames, and an empty comb put in its place.

In taking a frame of hatching brood in this way I generally take all the bees there are on it right along, only being sure that I do not get the queen, so that all the young bees on this comb help to give strength to the weaker, as the younger bees will not return to their old home.

In a few days a frame of brood and bees are taken from each of these two five-frame colonies, and given to the one having but three frames, and so I keep taking till all have five frames each.

Do not make the mistake some do and try to strengthen the very weakest first, for by so doing from one-half to two-thirds of the brood will be liable to perish with some cool spell, as these last colonies have at this time all the brood they can properly care for.

By the above plan we are always safe, and advancing warm weather is in our favor also. In a few days after all have five frames of brood, we are ready to unite, and if all has been done as it should be, the uniting will be done about the time white clover begins to yield honey nicely.

To unite: Go to No. 1 and look the frames over till the queen is found, when this frame having the queen on it is set outside the hive. Now spread the frames apart in No. 2, when the four frames of brood, bees and all, from No. 1 are carried and placed in each alternate space between the frames of No. 2, closing the hive. Return the frame having the queen on it to No. 1, placing beside it an empty comb; adjust the division-board and the work is done. In two or three days, put the sections on the hive No. 2, and see what a pile of honey they will store up. At the same time place an empty frame, having only a starter in it, between the two filled ones in No. 1, and in a few days you will have a frame filled with as nice worker-comb as you ever saw, which is much cheaper than to buy foundation. Nearly all the old bees carried to No. 2 will have returned by this time, so that No. 1 is a splendid nucleus, just right for building straight worker-comb, and by giving empty frames as needed this colony will be in good condition for winter, while No. 2 will have given three times the honey the two would have done if left to themselves, or had they been united in early spring.

Onondaga Co., N. Y.

No. 14.—Interesting Notes on European Travel.

C. P. DADANT.

I THOUGHT that I had well-nigh exhausted the narration of my trip, but our kind editor has the desire of inserting in the American Bee Journal a photograph of the birthplace of my father, Chas. Dadant, which was secured from the collection of an amateur photographer who has been dead many years. This photo was taken some 40 years ago, and it would appear, from the half-tone, that the original picture was good, altho evidently taken on a windy day, if we judge from the appearance of the trees in the view.

It was on the 22d of May, 1817, that my father was born, 84 years ago, in the large house at the back of the picture. The nearest building on the left hand was a blacksmith shop, and you can readily see two large grindstones under a brush shed. The church was being rebuilt, and they are putting the new building right over the old one, but the village was short of funds and they had temporarily abandoned the work and boarded up the unfinisht portion. The column in front of the church is a public fountain, and it is still there. The near house on the right is a grocery. The houses, the roofs, as will be noticed, are, like their roads, entirely of stone. It takes rafters of wonderful size to bear such a load, and the attic of one of those houses looks like a monstrous structure, but once they are put up, the roofs last till the wood is entirely wormeaten and the rafters crack under the weight.

The trees at the back of the picture, which seem to flutter in a strong breeze, are on each side of the highway which traverses the village, and the little river is just behind that. At the time when the picture was taken, the public highway was the only means of communication with other towns, but for the last 25 years they have been supplied with railroad facilities, telegraph station, telephones, etc. The church is now finisht and is a much finer structure than the one in the picture.

This village, Vaux-Sous-Aubigny, is the one which I mentioned in my second letter, (page 629—1900), as the home of my grandfather, when I was a boy, and which I visited with so much pleasure. I had been told on the way to Europe, by foreigners, who, like myself, had visited the home of their boyhood days, that I would find everything changed, that no one would know me, that those who would remember me would be very indifferent, and that it would be an all-around disappointment. Such was not my experience, altho I had come prepared for a change. In this village as in one or two others where I had been used to visit, and also in the city of my birth, some 20 miles from there, I found plenty of friends, old and new. As a matter of course, the new friends were all apiarists. The treasurer of the old college is an apiarist of some note, and I made his acquaintance with the greatest pleasure. He took pride

in showing me, on his desk, a copy of our French "Langstroth Revised," with my father's autograph.

In one of these little villages, not far from the one in the picture, I met a man who used to drive a wagon for my maternal grandfather, and with whom I used to ride back and forth, on school holidays, when I was 10 or 12 years old. This man, who was then about 32 to 35, is a bee-keeper, and as such I certainly have a right to introduce him to my readers. I must, however, own that he has none but straw skeps, and is not very progressive. When I went to see him during my last trip, he was out in the harvest field with his hired servant and his wife. The servant was wielding the cradle, the woman was raking the wheat, and the old man was binding. He is now upward of 70. I walkt up to him, he straightened himself and stared at me as in wonder whether the strange visitor was not out of his way. I askt, "This is Mr. V.?"

Birthplace of Mr. Chas. Dadant—Vaux-Sous-Aubigny, France.

"Yes, sir; that is my name."

"Well, I am an old acquaintance," said I.

"Oh, I believe you are mistaken, I never saw you before."

"Look at me well; you know me; you have carried me in your arms."

"In my arms? You must have been smaller than you are to-day."

I gave him my name. The poor old fellow hugged me as if I had still been the little boy he had known, and said, "Is that you, my little fellow? and did you come all the way back from America to see your old friends?"

The harvest was dropt for that day. He took me back to the village and we had a good visit, and you may think how much we had to talk about. We went to look at the bees, but did not stay long with them—we had too many other things to see.

Around that vicinity a new impetus is given to bee-culture, for they have an important bee-association, which comprises what is called a "Department," a land division covering about the space of one of the small New-England States. This association is beginning the publication of a monthly bee-paper, "Practical Bee-Culture" (L'Apiculture Pratique), which is very nicely gotten up. Whatever they do, the Europeans are not behind in the number of their bee-publications, for, in France alone, there must be some 10 or 12 of them, publisht in different places. I have nine of them on my desk now, and they are all wide-awake, all bent upon taking the peasants out of the old rut as rapidly as practicable.

But in these ancient places we saw some very queer people, with very extraordinary ideas about America. A friend in our city askt me to come with him to pay our respects to a couple of old ladies who had known my folks long before my birth, and who exprest a wish to see me. They were between 75 and 80 years old. My daughter accompanied me and we were heartily welcomed. But the elder of the two ladies after the usual compliments, raised her spectacles, and looking at my daughter with unfeigned astonishment, said: "Why, your daughter is as white as you are!" She had evidently imagined, that, living in that wild country—the backwoods of western America—I had married the daughter of some Indian sachem, some red-skin Pocahontas. This amused my friend, as you may understand, and he laught heartily, and went to great trouble to explain to these good ladies that America was not peopled with savages only, and that there were a few families of the Caucasian race scattered over that great wilderness.

Now, Mr. Editor, I will close this too-long narration which has been continued thru 14 numbers. I will ask forgiveness of those bee-keepers who have followed me in the hopes of getting a little bee-culture out of all this talk, for they have been sadly disappointed. I will also express my thanks for the many kind words spoken in private correspondence by some who seem to have enjoyed my too-personal recollections of the most agreeable voyage I have ever made.

Hancock Co., Ill.

(Edition of 1899-1900.)

No. 3.—A Review of "A B C of Bee-Culture."

BY PROF. A. J. COOK.

(Continued from page 197.)

PAGE 277—A word more about bees dying because they have lost their sting. Several times I have had my students secure bees that have lost their sting, it having been pulled out consequent upon use. These were put into a cage and fed. Other bees, uninjured, were put into a cage and fed in the same manner. In two or three days all the first bees were dead, and none of the others, nor were the latter dead for days, even weeks. I would not wish to be understood as holding the view that stinging will necessarily kill a bee, as a slight sting would not pull the sting out and might not do any serious injury. But I believe that when the sting is extracted, it will always end in the death of the bee. The time, however, will vary, which argues that in some cases more injury is done to the internal organisms than in others.

Page 280—I am a little skeptical as regards the queen leading out the bees. I would not be sure that Mr. Root was right in his conclusion. This may have been a normal swarm and the queen may have followed them to the old hive rather than have been led by them. In all my experience, I have never known a queen to lead a swarm. Her presence, however, will have much to do in forming the cluster, as every apiarist of experience knows.

Page 357—I think Mr. Doolittle is a poorer philosopher than he is an apiarist. I should have great respect for any opinion he might give in reference to bee-keeping. I am not at all sure of his dictum with reference to swarming. Surely bees do swarm out of their hive from other cause than the instinct to increase. Indeed, I think the old idea of instinct as being the unvarying and inerrant guide of insects and other of the lower animals in their actions will more and more be modified. I think now that our best naturalists are giving it up. Is not all instinct the result of previous acts guided by intelligence? Acts, repeated many times under volition, result in a habit in which case action becomes almost automatic, hardly guided at all by the will. Action that has long been habitual will after a time become almost unvarying, and becomes, perhaps, wholly automatic. The physiologist would call this reflex action with the gray matter of the spinal cord as a center. With man, and to a less degree with other higher animals, the intelligence often interferes to modify habit and instinct. I believe this is equally true with bees and other lower animals. If I am correct, then swarming will not always follow from the same cause. I think every apiarist will recognize that varying conditions will very greatly modify the habit, or instinct, if you please, of swarming.

Page 362—I was surprised to note that Dr. Miller also gives his authority in favor of bees not clustering in case the queen does not go forth with the swarm. I have always been surprised at such assertions. For many years, I practiced clipping queens' wings, which I believe is always wise policy. I have had hundreds of swarms go forth where the queen was clipt, and so of course could not join them, yet I found it very rare that the colonies failed to cluster. In such cases they will always return to the hive, but in my long experience and observation, it will be

decidedly the exception and not the rule that they return to the hive without forming at least a partial cluster.

Page 299—Mr. Root in referring to turnips writes as follows: "If they are turned under just before going out of bloom, they make one of the most valuable of soiling crops. Thus a good turnip pasturage may be obtained with no extra work except sowing the seed, and the crop will be an actual benefit to the soil if turned under." Has not Mr. Root used the wrong word here? As I understand it, soiling is used to refer to cutting green herbage for immediate feeding. When we cut green corn for our cattle, we are then soiling. Plowing under a green crop, as I understand it, is not soiling but green manuring. I think, also, that no scientist would agree with Mr. Root that turnips are one of the best crops for green manuring. They would add no manurial element to the soil. They would be of advantage in adding humus. They are not very deep-rooted plants and so would not bring up inorganic matter deep in the subsoil. Leguminous crops, like peas, clover, and lupin, root much deeper, furnish just as much, if not more, humus, and in taking the nitrogen from the air and combining it so that it can be utilized for the plant, are the plants par excellence for green manuring. The man who is content to plow under the cereals like oats, barley or rye, turnips or weeds, instead of some legume, like clover and peas, is content with a half loaf when it were just as easy to secure a whole one. This suggestion is all the more valuable in view of the fact that nitrogen is the most expensive fertilizing element which we need to add to our soil.

Page 306—Is it true that all the moisture that is found in the hive, making the sticky mass after bees have been suffocated, comes from honey that the bees have regurgitated? I think there is good reason to believe that much of this is the water of perspiration, or, possibly we better say, respiration. In such cases, bees try hard to cool off. The only possible way that they can do it is by evaporation of water. That they function in some way analagous to our sweating, I think there can be no doubt. That perspiration from the exterior of the body can amount to much, is doubtful. Their thick, chitinous crust would seem to make this impossible. I have no doubt that there is much escape of water by evaporation—in fact, there must be—from the innumerable air-tubes. I believe close investigation will prove that such moisture is more in evidence on such occasions than the honey which the bees regurgitate.

Page 308—Here, again, our author refers to bees separating water from honey while on the wing. I believe this is physically impossible. I have never as yet seen this "mist" fall from the bees while flying in the air. The statement has so often been made by others who thought they had seen it that we can hardly doubt but that it had some basis in truth. If such mist does fall from the bees, it certainly must be the water of evaporation in the air-tubes, or else excreta from the intestines. This is certainly a matter which deserves very close investigation.

Page 310—The Chinese wax referred to on this page is the product of an insect. It is one of the scale insects or coccids. Thus it is related to the cochineal insect, which, as is well known, gives us our carmine dye. This Chinese wax is very white and is used for making candles. As Mr. Root well says, it is too expensive to be used to adulterate beeswax, and, more than this, detection would be very easy.

Page 321—In speaking of the willow, it is stated that it does not furnish honey, and the late Mr. Quinby is quoted to the same effect. This is certainly not true of all our willows. As is well known, the willow, like our pepper here in California, are diœcious, that is, the male and female flowers are on different trees. I have seen bees over and over again thick on the blossoms of both. They were visiting, one for pollen and the other for honey. True they might get honey from the willow Aphis, a plant-louse which is very common on the white willow, but careful observation in many cases has shown me that they were visiting flowers and gathering nectar from trees not at all infested with plant-lice.

Page 322—On this page, Mr. Root gives an admirable illustration of that incomparable plant, the willow-herb. Curiously enough, in giving the scientific name he exchanges the generic and the specific names. The plant is known as Epilobium angustifolium, and not, as he puts it, Angustifolium epilobium. This plant is worthy all the good things he says of it. It is not only excellent for honey but has a most beautiful flower. This plant comes up thick over the burnt areas of northern Michigan, and so is often called fireweed. This name, like that of Indian-pink, is unfortunate, as these names are also given to other plants which are very different.

Page 335—Is it true that dark honey is more unsuitable for wintering than other honey? If we give the definition for honey that some bee-keepers urge, that honey is the transformed nectar of flowers, then surely the above is not correct. It is true, however, that bees often gather nectar from bark-lice or scale-insect secretion, which I think they transform into honey. This is very dark and is certainly unfit for wintering. While I would not wish to use this latter in any climate where bees can not fly frequently, for purpose of winter food, I should not hesitate at all to use buckwheat or any other dark floral honey for winter food in the apiary.

Page 348—In his glossary, our author gives Apis as the family to which the bee belongs. This should have been the genus to which the bee belongs. It may be of interest to some of our bee-keepers for me to give the groups from first to last in succinct form, to which our pets of the hive belong. The phylum or branch, which used to be called Articulata, and which included worms, is now known as Arthropoda, a word meaning "jointed legs." All animals which belong to this phylum have not only jointed legs but also jointed bodies. Thus the sow-bug, crayfish or lobster, thousand-legged worm, and spider, as well as the insect, all belong to the phylum Arthropoda. The bee belongs to the class Hexapoda, or insects. The former name is given because they all, in the mature state, have six legs. They are called insects because their body is cut up into three well-markt portions, head, thorax and abdomen, besides the other rings and joints which make up these main divisions. Of course this class does not include the lobster class, with their varying number of legs, the eight-legged spiders, or the many-legged myriapods.

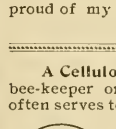
The bee belongs to the order Hymenoptera. This word comes from the Greek and means membranous wings. They are so called because they have thin wings like those of the common house-fly. This order does not include moths, butterflies, two-winged flies, beetles, bugs, locusts, etc. The family of the bee is Apidæ, a word signifying honey-bee, as the typical genus is Apis. In this family, the larvæ are always fed on pollen, and thus the bees are always provided with means for collecting this valuable food substance.

We have a great many bees, from the huge bumble and carpenter bees down to the small solitary bees which are often very beautiful. With very slight exception, none of the bees ever do any harm, and all of them will co-operate with the honey-bee in the valuable work of pollinating the flowers of our fruits and vegetables. The carpenter bees sometimes bore into cornices and window-casing of houses, but rarely do any serious mischief, and are easily dislodged by the use of a mixture of lard and kerosene oil. The genus of the honey-bee is Apis, and includes all those bees that have their hind legs best fitted for carrying pollen, and have no tibial spur on these legs. The species of the honey-bee is mellifera. This includes all of the bees that have been domesticated, of which there are several races, as the Italian, Syrian, German or Black, Carniolan, etc.

In concluding these reviews of our three most important bee-books, I wish to say that the task has been altogether a pleasant one. There is so much to commend, so little to criticise. I am proud of our bee-books, and am proud of my brother authors.

Los Angeles Co., Calif.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we have been furnishing to bee-keepers for a long time. It has a pin on the underside to fasten to the coat. Price, by mail, 6 cents each; two for 10 cents; or six for 25 cents. Send all orders to the office of the American Bee Journal.

The Premiums offered this week are well worth working for. Look at them.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

A Beginner's Questions.

My bees were put into winter quarters very light in stores, and I think they won't have enough to bring them thru till spring opens. I began feeding too late in the fall, and cold weather started in, so they did not have time to store much.

1. Can I feed them before good weather comes, or will I have to wait till good weather comes in the spring?

2. How large should the hive-entrance be in the spring of the year?

3. Will bees taken from a bee-tree in the woods swarm as much as tame bees do?

4. How much honey does it take to winter a colony of bees?

5. What time do bees generally begin swarming in the spring?

6. How can a person tell when the bees are to swarm?

7. Will bees taken from a tree store as much honey as a tame swarm?

8. How long does it take a new swarm to fill up the brood-chamber after they are hived, when there is lots of honey in the fields?

9. How many times should bees be allowed to swarm?

10. Should the entrance-guard be kept on when robber-bees are troublesome?

11. How long does it take bees to fill a super when there is lots of honey in the fields?

12. Where do the bees gather propolis?

13. Should bees have shade on a hot summer day?

14. Do bees need any salt in summer when they build comb?

15. How can I prevent second swarms?

16. Do bees store any nectar from corn, pumpkins and cucumber blossoms?

17. Will putting supers on a ten-frame hive prevent swarming?

18. Do the drones build comb and gather honey when newly hived?

19. Should the honey-board be on top of the frames, that is, between the super and the frames?

WISCONSIN.

ANSWERS—1. If they have enough stores to last till that time, wait till weather when they are flying. But if you fear their starving before that time, don't wait; you may as well disturb to death as to let them starve to death. If you feed before they are flying, you must make sure they can get the feed. Hang a Doolittle feeder close to the cluster, or give them a brood-comb containing syrup, or give them candy right over the cluster.

2. No larger than in the winter, if as large. Anywhere from one to three square inches, according to the strength of the colony.

3. Fully as much.

4. It varies greatly; from 6 to 25 pounds or more. The size of the colony, the character of the winter, whether wintered in cellar or not, all have to do with the matter.

5. If wintered in the cellar, about the first day they are taken out. If wintered outdoors, perhaps about the last of March in Wisconsin. But these are hunger-swarms, or swarms because there is something wrong. Normal swarming for increase comes later in the North than in the South. In Wisconsin there may be rare cases in the last of May, June being as early as it generally begins.

6. By finding a number of queen-cells started in the hive. If a colony swarms the second time, it will generally be somewhere in the neighborhood of eight days after the first or prime swarm.

7. Just as much as another of the same strength. You will find the colony taken from the tree just as tame as any other.

8. That depends upon the size of the swarm and of the hive, and the time of the swarm. It may be a week, and it may be not till the next year.

9. Once or less.

10. It will be a little help, but is not commonly used for that purpose. Strong colonies are a better guard against robbers.

11. It will be excellent work if done in two weeks. It may be less, but it is oftener a week more before all sections in the super are sealed.

12. From the buds and twigs of poplar and other trees.

13. It is desirable.

14. They seem to have a liking for salt, and a few bee-keepers take pains to furnish it to them. It perhaps has more relation to brood-rearing than comb-building.

15. Put the swarm on the old stand, and set the old colony close beside it, both facing in the same direction. A week later move the old colony to a new place.

16. Yes; much from pumpkins and vines of that sort, but mainly pollen from corn.

17. Yes, it will be an excellent plan if there are bees enough to fill them; but it may not prevent swarming.

18. I have never seen them engaged in such occupations when first hived.

19. That is the proper place for it if you use one; but honey-boards are not as generally used as formerly, except as queen-excluders.

Spring Questions.

1. I put into winter quarters an even 50 colonies, about $^1/_3$ Italians and the balance blacks. In the fall I ran them all together, made two rows, 12 in each row, back to back, and covered with gable roof like a house. From some cause my Italians went into the winter with less stores than the blacks, but I thought all had an abundance, and could have, I thought, taken two frames from each hive, but as it has turned out fortunately for them I did not do it.

Feb. 1st I put them all on the summer stands. At that time I thought they had plenty, but, for fear, I fed all the Italian colonies about five pounds of syrup each. Sunday, March 17th, as I was looking at them I noticed from my best Italian colony the bees crawling all around the front of the hive on the ground, and many dead bees. I got the smoker, lookt into the hive and found they were starving—not one bit of honey. All my Italians are in the same fix, but not quite so bad as that one. The blacks are, most of them, able to go thru.

I at once began to feed, but I fear too late. What shall I do? We have had *no* winter, scarcely a day but what the bees have been flying. The peach-trees are all putting out in bloom yesterday and to-day; elm and soft maple are also in bloom, and the early wild flowers. Do you think the elm, maple and peach will provide food for them—that is, can they hold their own on that, or will they keep getting shorter of food?

2. Was it you that made a visit to Sebastian Co., Ark., some weeks ago? I have forgotten who it was. If you, kindly give me your impressions on bee-keeping and probable success in that portion of the country, as I live only 75 miles from Ft. Smith. The bee-papers give us very little information relating to our part of the country, in fact it's all for Northern bee-keepers.

3. Why have my Italians fallen behind the blacks? The Italians did store just enough honey to carry them thru (and it has turned out not enough to do that), while many of my blacks had from 1 to 2 supers of surplus. One early swarm of blacks stored 252 pounds surplus. I bought queens from several of the leading queen-breeders last year, but had very poor success with them. Does it take more stores to run them than blacks? or why is it they are *all* just ready to starve?

4. I want to clip all my queens. When would you do it—right now, or wait till they are stronger? As they now are, I can not open a hive but the robbers are right after me, and just cover the hive after putting in feed. I have to close it entirely up tight. I am nearly discouraged. Tell me what to do, and I will be *so* thankful.

INDIAN TERRITORY.

ANSWERS.—1. It is quite possible that the bees will be able to take care of themselves, but it will be well to make sure by giving some feed. In any case it will not be lost. You are fortunate in having weather when they can fly nearly every day, for that makes feeding an easy thing.

2. I have never been in that part of the country, and can give you no reliable information about it.

3. I don't know why the blacks should have done better

than the Italians. Possibly you have blacks that are unusually good and have been unfortunate in not having the best of Italians. More likely the treatment had something to do with it. The blacks were perhaps interfered with less than the others. If you changed their queens, etc., the Italians would not have so good a chance. As you had an open winter, the bees flying nearly every day, the bees would use more stores in winter, and it might be that the Italians were more active and used up their stores faster, but that would not account for the great difference in the amount stored last summer. There is room for considerable suspicion that the blacks had the better chance.

4. Try not to open hives unless absolutely necessary until time of robbing is over, when the bees will get enough to do on flowers that they will turn to honest pursuits. Certainly you should not clip till you can do so without danger from robbers. If for any purpose you are obliged to open hives, better do it toward evening; then there will be less danger of starting robbing, and if it should trouble a little, darkness will soon come to your relief.

A Dozen Questions.

1. The burning question with me is how to winter bees. This is the fourth year I have tried them in North Dakota, the second and third year I had heavy loss. This winter I have them in the same frame building. I have 11 hives closely packt together, and on top of each other, and covered with some wheat chaff. I gave no upward ventilation, left the honey-boards sealed down, put a wood tray two inches deep under each hive, and with wire-cloth on the entrance 2x3 inches. No ventilation on the bee-house ceiling, above the ceiling it is packt with chaff. The house is warmly built. I put an extra door on this winter, which gives two air spaces. I went in last week, and the thermometer was 29 degrees above zero. I could hear the low hum in all the hives I could reach.

2. Last season on account of the dry weather I got only about 70 pounds of surplus honey from the 3½ colonies, spring count, and in September when fixing them for winter I thought they had enough to tide over till spring. Two years ago I took your advice and sowed sweet clover; but for that, last season would have been a blank for honey. The past seasons I have kept down natural swarming by dividing, and extracting from the top hive. The coming season I would not seek more than one swarm from the strong colonies, and would like to know the best methods of dividing for increase. Guided by the American Bee Journal I have tried several ways, but had many failures. I seemed to lose at least time, honey, and sometimes bees. When is the best time to divide? and to manage the half that has no queen? Is there any need to destroy the extra queen-cells they make?

3. I sent South and got a good many young queens by mail; they all came in good order, and there were some fine queens among them. Several times I lost the queens by lack of care on my part, not looking out for the other queen in the hive. Now tell me how long they should be without a queen before they have one introduced?

4. In making a nucleus could I take a frame of brood with bees on it and introduce a young queen at the same time? or how many days after?

5. How far apart should nuclei be set to make it safe for a young queens to enter her own hive?

6. Do you think king-birds have anything to do with my queens getting lost sometimes?

7. Is there any danger of crowding too many bees into a hive? In September, when taking off the upper story, there were so many bees that they could scarcely all get into the lower hive. Would that hurt them in wintering? or would it be better to give some of the bees to a weak colony?

8. Is there any danger of killing the queen when you mix together bees of different colonies? How do you prevent it?

9. In taking a frame of brood and bees from a strong colony, to build up a weak one, will these bees be liable to kill the queen?

10. Would there be any danger in introducing a young queen to the part that is queenless, after dividing a strong colony? How long should it be before you give it one?

11. Would the bees receive a matured queen-cell as readily as a queen? How long should they be queenless?

12. In dividing a strong colony, how or where would you place the hives?

MINNESOTA.

ANSWERS.—1. It is possible you may have to give up the idea of wintering in that house. It is a hard thing on bees to be in a place where the thermometer stands at 29 degrees continuously. You may say it is much colder than that outdoors. So it is, but when a warm day comes the outdoor bees can have a flight, whereas your bees will not. It is questionable if you should leave the covers sealed down, but if there is a sufficient amount of warm packing over all it may do. The 2-inch tray under the hives is good, but it is not a good thing to fasten the bees in the hive with wire-cloth. When bees want to come out of the hive to die, they ought to have that privilege. You might find that they will winter better in the cellar under your dwelling. If it is impracticable to have them there, you could at least have a cellar several feet deep under the house in which to winter your bees, so as to raise the temperature to about 45 degrees. If you find them troubled with diarrhea, better get them out as soon as a day comes that is still, with the sun shining, and the thermometer 48 degrees in the shade.

2. If you want no more than one increase from each strong colony (and you are wise in desiring no more), it is possible that natural swarming would be the best thing for you. With that it is easy to prevent second swarms. If you divide artificially, do not begin before about the time of natural swarming. Generally there will be no need to destroy queen-cells. Perhaps the nucleus plan may suit you as well as any. Take a colony that is very strong and has a good queen—if not as strong as you wish, make it so by giving brood in advance from other colonies—and take its queen with two combs of brood with adhering bees and put in an empty hive on a new stand. Seven to nine days later form nuclei, giving each one two or three frames of brood and bees from your queenless colony, and seeing that each one has two or three good queen-cells. If the queen-cells are at the outer edges of the combs, put them on the central surface, fastening them with a staple or nail. Put the hive with the old queen on the old stand, putting a nucleus in place of the queen. A week after forming the nuclei give each of them a frame of brood from the other colonies that have not been disturbed; a weak later still, one or two frames of brood; and so on till you have a full colony.

3, You may be successful by removing the queen at the same time you give the new one, providing the new one is not released too soon, but it is safer to have the new queen released four or five days after the removal of the old queen, and to make sure of this with the usual shipping-cage the old queen should be removed two or three days before the new one is put in the hive.

4. If the queen is caged, she should be put into the nucleus at the time it is formed. Two days after it is formed there would be little risk in giving the queen without caging. If the nucleus was formed with queenless bees—and generally it should be—then any kind of a queen, and especially a very young virgin, could be given at once without caging.

5. If there are no more than four of them they need not be apart at all. Two of them may be side by side, almost touching, with the other two facing the opposite direction, the two pairs standing back to back. Then another group of four may come with four feet of space between the two groups, and so on.

6. It may be.

7. Don't be afraid of too many.

8. Generally one of the queens will be saved, but it is well to take the precaution to kill a day or two in advance the queen of the bees to be united.

9. Not much danger unless you add nearly as many bees as were already in the weak colony.

10. If the queenless part is put on a new stand there would not be much danger after a day or two. But look out in taking bees from a queen and putting them on a new stand, that they do not desert the brood. It is safer always to form your nuclei of bees already queenless.

11. Generally a queen-cell will be received more readily than a queen. It will be a rare case that any colony will not receive a queen-cell 24 hours after being made queenless. This does not refer, however, to bees with laying workers; hard to get them to receive anything unless it be a virgin just out of the cell.

12. If you mean dividing into two parts—a thing that is of doubtful policy—you might set the two side by side on the old stand; then if one should get more bees than it should have you could move it away a few inches and bring up the other.

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GENERAL ITEMS

Early Spring in Arizona.

We are having an early spring. Alfalfa is about knee-high, and bees are gathering honey from fruit and desert flowers.

To-day I found queen-cells started in all stages, from the egg to the sealed cell ready for swarming. B. A. HODSELL.

Maricopa Co., Ariz., March 4.

Bees Wintered Well in Kansas.

I started last fall with eight colonies of bees, and they are coming thru the winter very nicely. I examined a few of them in February, and found some of the queens laying, and some brood in the larval state. The colonies are all on the summer stands. How is that for Kansas?

I love my bees, and am bound to give this country a fair trial before I give up trying to keep them here. I think the prospects will grow better when the farmers get to sowing more alfalfa.

I want to do all I can for the American Bee Journal, for I could not do without it now.

J. L. BADER.

Coffey Co., Kans., March 10.

More Rain in Southern California—Sage Honey.

We have just had another nice rain, and the prospect for a honey crop in southern California is good, as most locations have had from 12 to 15 inches of rain to date. I have an apiary near Pasadena, where the rainfall has been 22 inches. There has been very little sage honey shipt from here during the past three years, but there will soon be some to ship. FRANK MCNAY.

Los Angeles Co., Calif., March 14.

A Voice from Southern California.

Having read with no small degree of amusement the comments and prophecies on the expectations and prospects of California's honey crop for 1901—and these not always given in the friendliest of terms, but tinged with a gleam of jealousy—I wish to say:

Now, fellow bee-keepers, honey-eaters, and friends who are hopeful and have a good wish for those who produce by the sweat of the brow and the pain of the bee-sting, that which of all others is one of Nature's choicest sweets, California has had a hard trial—especially southern California—in the three seasons of light rainfall just past, and perhaps no pursuit has been more severely tried, or suffered a greater percent of loss in proportion to the amount invested, than that of bee-keeping. And of the many who have "stayed it thru" almost all have had some other source of income, or turned at least a part of their attention to other pursuits, that they might save their bees until we should be blest again with a normal rainfall that would justify them in giving their attention to the honey-producing industry. The editor of one of the leading bee-papers says, "We expect California will be wishing Colorado a 'short crop.'" This is not a fair judgment of the temperament of us California bee-keepers, for I do not believe, at any time in the three trying seasons just past thru, that the bee-keepers of California wisht to see a good crop at home and a failure on the fellow in another State.

Five years ago last fall I came to this part of the country from Oregon, and, to amuse myself, the following winter I dug out from the hills and hived 24 colonies, and from these and subsequent purchases made with money earned by working out between times, I have built up an apiary of 160 colonies that are in excellent condition, and I have a few dollars

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laid by, made thru these tireless little workers. But it has been only by constant and earnest attention that I have been able to go thru these dry years with a loss of not to exceed 5 percent at any time, and I am sure I see nothing at present to justify the supposition that we are in any way likely to overstock the Eastern markets with cheap honey. For five years my record has been as follows: 1896, 800; 1897, 8250; 1898, 800; 1899, 8310; and 1900, 8350. By JINKS.

Riverside Co., Calif. March 9.

Bees Wintered Well.

Our bees have lately had several fine flights, the first in about 4½ months. They were wintered on the summer stands, prepared as explained in the American Bee Journal for Oct. 11, 1900 They were confined to hives by cold weather much longer than usual, the mercury going as low as 10 degrees below zero, yet there is a loss in colonies of only about 1½ percent, and nearly all colonies are in fine condition. H. D. BURRELL.

Van Buren Co., Mich., March 25.

A Beginner's Report.

I am a beginner in the bee-business. I had 14 colonies last spring, and increast to 28, which are wintering on the summer stands; all are in good condition, and have considerable brood.

I will be 64 years old May 13th. I came to Texas 50 years ago, and am a farmer and stock-raiser. I raised 32 bales of cotton and 1,000 bushels of corn last year.

Good luck to the Bee Journal. I like it very much. GEORGE CONAWAY.

Comanche Co., Tex., March 13.

Bees in Good Condition—Gathering from Sap.

I examined my bees March 16th, and found them in good condition, with plenty of honey and some sealed brood. They have had a good flight nearly every week this winter. They seem to be at work, but I can't tell what on unless it is maple sap, as it is running now, and so is box-elder sap. It is too cold to-day for bees to fly. FEED TYLER.

Mason Co., Ill., March 20.

Soft Maple in Bloom.

The Bees are still in the cellar, altho the soft maples are partly in bloom; but the weather is cold. E. S. MILES.

Crawford Co., Iowa, March 29.

Horsemint a Good Honey-Plant.

Our bees are working nicely. We have lots of horsemint in this part of the country, which is a good bee-plant.

MRS. C. R. WEST.

Ellis Co., Tex., March 27.

A Plan for Watering Bees—Fishing.

Our bees have been a nuisance about the watering trough and pump. Our women-folks, as well as the boys, objected to them about the pump, then I knew it was time to do something. So I referred to "A B C of Bee-Culture" for a remedy for the trouble, and straightway made two watering devices, and set them up in the apiary, which is about five rods from the pump. They were kept filled during the heated spell in July and August, when 30 colonies would carry away from one to four gallons a day. This stopt the annoyance about the pump, and we saw but three bees there during the summer. So much for the text-book.

The watering-boards can be made with a jack-knife if one has no saw. I believe if apiarists would see to it that their bees were well watered at home, there would be less "kicking" done by the neighbors. The text-book is the main tool, and the "Old Reliable" sees to it that the tool is kept in working order.

It is not long since I started with bees, and I was not slow in "firing" questions at that

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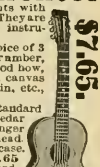

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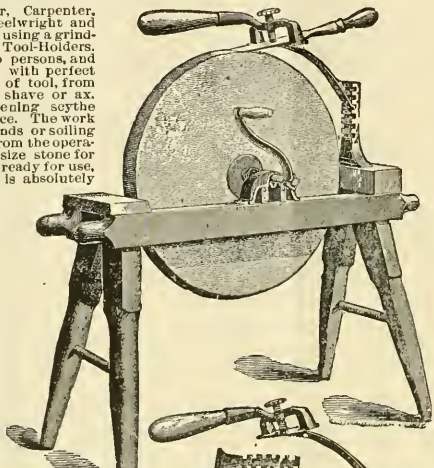

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15A2t Mention the American Bee Journal.

"grand old man," Dr. C. C. Miller, who is so kind and obliging in telling us what we want to know. Some day we shall lose him, and his place will be hard to fill. May the Father above be good to the Doctor and his, is my prayer.

What would we better do with Mr. Hasty? He appears to be having a circus with us all. How would the editor like to go fishing with him, and afterward hear him tell how all the big 'uns got away—from the other fellow?

J. P. BLUNK.

Webster Co., Iowa, March 9.

[No, we don't know anything about fishing, so if Mr. Hasty wants a companion, on such a job, he'd better take Mr. Blunk, who is a diligent student of the late, lamented Izaak Walton.—EDITOR.]

Mistake in "Averaging Up."

On page 157, J. D. Gehring wonders "if F. J. Gunzel's report of 14,000 pounds from 94 colonies is not a mistake." One thing is certain, as Mr. Gehring "figures it," his 170 pounds average is a huge mistake. Would not 149 pounds (nearly) reduce the cause for wonderment? WM. WRAY.

Gratiot Co., Mich.

Queen-Button—Bees Wintered Poorly.

I think that little queen-button is the best thing out to advertise a bee-keeper, and I am sure that if every bee-keeper, old and young, male and female, would wear one of these little "catches" they would catch many a pound of honey which would otherwise remain packt away in the honey-room. When taking the last number of the American Bee Journal from the post-office, and glancing thru it to page 203, a bystander noticed the picture of the queen-button, and the first question he askt was, "Say, Mr. Golden, have you any honey? Seeing that bee just put me in mind of the honey."

Some time ago I frequently spoke to our bee-keepers that I was fearful that our bees would suffer greatly on account of the quality of winter stores and long confinement. Surely, my prediction is being fulfilled thruout this section, not because it has been so cold, but on account of the long confinement without a flight, and bad winter stores.

J. A. GOLDEN.

Morgan Co., Ohio, April 1.

Wintered Well.

I wintered 25 colonies in chaff-packt hives, and up to this date they seem to be lively and doing well. ALBERT BAXTER.

Muskegon Co., Mich., April 1.

Mistake in Mathematics.

In Mr. Getaz' article, on page 151, a little mistake in mathematics appears, and should be corrected without any offense being given, because mistakes—according to an old maxim—are no haystacks.

If a man is to carry 2,000 pounds of material, taking 50 pounds on a trip, to a place 500 yards distant, he will truly have to make 40 trips, but in going to and from the place of deposit he will have to walk 1,000 yards to complete his trip; therefore, the man carrying 50 pounds on a trip will cover a total of 40,000 yards, and the one carrying 100 pounds will walk one-half the distance, or 20,000 yards. E. F. TRITTENBACH.

Northampton Co., Pa., March 11.

Experience in Getting Subscribers.

The editor has said from time to time that any one could get at least one new subscriber, but I have tried every man in this vicinity that keeps bees, and sent in 16 names at one time for sample copies, but not one would part with his dollar for subscription, but let his bees rot with foul brood, and then say, "Let them go; they don't gather any honey, anyway, so they might as well be dead as

alive." When you tell him that his bees are spreading foul brood among other apiaries, his reply is something like this: "Let them spread it; it won't do me any harm." I dare say not a letter was written by one of this class of bee-keepers, to help to get the foul-brood bill past, and they would be the ones to object if any inspector should come to examine their bees.

There is a good, honest farmer over south of us about three miles, who has nine colonies of bees in hives of all shapes and sizes. He was here this morning and left $1.00 for the American Bee Journal. C. H. AUSTIN.

Hillsdale Co., Mich., March 18.

Short of Stores.

Bees in this community are short of stores, and the time is critical, but as peach-bloom is now on, with open and warm days, I hope they will pull thru without much loss.

L. T. SUIRLEY, M. D.

Pickens Co., S. C., March 29.

Report for 1900—Other Matters.

I have only a small apiary—from 40 to 50 colonies—and run exclusively for comb honey, as there is no market here for extracted. I depend upon the local market and orders by mail, all calling for comb honey. I disposed of 1,800 pounds of last season's crop in that way, at an average of about 13 cents per pound. Each case is markt with the net weight and grade, and in packing I am careful to have each section clean, *properly filled*, and as good, or a little better, than the outside exhibition sections. In that way I have secured a trade that takes all I can supply at outside prices. I enclose two, three and four cases in a light box or crate with hay cushion in the bottom, and ship by freight, unless ordered otherwise, mostly to points in North Dakota.

Last season was a fairly good one, my yield being 65 pounds of honey to the colony, and 50 percent increase.

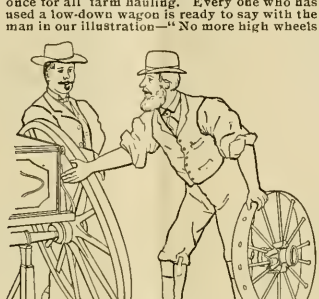
I make all my own hives, sections, etc. The hives are 14x17¼x11 inches, inside measure, with 9 frames rabbeted to receive cover or super; also rabbeted top and bottom to fit. The bottom-board is fastened to the hive with three hooks, one in the middle of the back, and one on either side near the front. The cover is flat, having 2½x⅜ inch cleats nailed to it, the cover projecting slightly beyond the cleats. The entrance is ⅜ inch by width of hive, regulated by a triangular block to suit circumstances. I bore an inch hole near the top of the front end of the hive for winter ventilation, but close this up in summer.

I winter the bees in the cellar, and take them out when warm weather comes, without any regard to the season. I double all weak colonies, use honey-boards instead of cloth, removing them when placing in winter quarters. I raise the cover slightly and put on the honey-board, covering with newspapers when placing on the summer stands, then replace the cover, making all tight and warm. I do not remove the paper until settled warm weather, and seldom lose a colony. I allow them to swarm naturally, and place the swarm on the old stand, moving the old one two feet, and allowing it to remain two or three days, when I move it to another stand. I usually give the new colony one frame containing some brood, placing it in the middle, and never have a swarm leave the new hive. I bad one new colony that cast a swarm the eleventh day, and don't understand it. I make my brood top-bars 1⅛x⅞ inch, split with a saw to within two inches of the end. The ends are 1x⅞ inches, with little pieces bradded on the edge to serve as spacers. The bottom strip projects ¼ inch beyond the ends to prevent the frame from touching the ends.

H. B. KNOWLES.

Winona Co., Minn., March 8.

The Man and the Wheel.—The wheel in its various applications to the industrial arts, from the crude cart-wheel of the ancients to the whirling shaft of the modern dynamo, has been one of the most important factors in the evolution of the race. Take away all the wheels of the 20th century world and we would have very little civilization left. While we believe that much depends upon the man—"the man behind the guns" wins the battle; the man behind the plow makes the crop—at the same time we can not expect as much work nor as good results from the man who is hampered by having to use inadequate tools as from the man who employs up-to-date methods and has an up-to-date equipment. Take the matter of farm wagons as an illustration. For years we used for farm work wagons with the old, narrow-tired high wheels. Every time we put a load on it we lifted about twice as high as there was any need of; every time we drove across a field we cut into the ground about twice as deep as was necessary; every time we started the horses we pulled them about twice as hard as the load required. Then some one hit on the idea of making a low-down handy wagon with wide-tired metal wheels, and the labor of farm hauling was reduced about one-half. The handy wagon became popular at once for all farm hauling. Every one who has used a low-down wagon is ready to say with the man in our illustration—"No more high wheels



"No more High Wheels for me, Neighbor."

for me!" We believe this is especially true of those who use the famous Electric Handy Wagon or the Electric Steel Wheels made by the Electric Wheel Co., at Quincy, Ill., who have been recognized as the leaders in this line of goods, and by their fair business methods and the high quality of their products, have made the name "Electric" stand for all that is excellent in wagon-making. They make metal wheels of all descriptions for wagons and implements of all kinds, and will sell either a wagon complete or a set of wheels for an old running gear. Very many farmers buy a set of low wheels for use on the farm and a set of high wheels for road hauling. The advantages of wide tires and low-down wagons have been so thorely discust in the press and at institutes and clubs that there is small need of repeating them here. It has been demonstrated, time and again, that they mean easy loading and easy hauling; they save the man, they save the horses, they save the fields, for they do not "rut" nor cut up the ground as a narrow tire does. If you have not a low-down handy wagon we know that it will pay you to investigate. Send for the Electric Catalog. It's Free. It's poor economy to wear out your back or your hired-man's back when you get a better wagon, and one that will last your lifetime, for less money than you pay for a high-wheeled labor-maker. Please mention the American Bee Journal when writing for a catalog.

GINSENG $10. in plants produce $4,000.10 to 30 years. Book telling how to grow it, 4c. Lakeside Ginseng Gardens, Amber, N.Y.

Please mention Bee Journal when writing.

Rocky Mountain Bee-Plant Seed!

(*Cleome integrifolia.*)

...FREE AS A PREMIUM...

The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows from two to three feet in hight and bears large, clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us ONE NEW subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.

GEORGE W. YORK & CO.

118 Michigan St. CHICAGO, ILL

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Apr. 4.—Honey quotation remains the same as they have been for several weeks past. Stocks are very light and demand will more than take care of all there is on hand.

Fair grades of white, 14@15c; best ambers, 12@13c; mixt colors, 10@11c; buckwheat, 9@10c. Extracted, white, ranges from 7@8c; amber, 6½@7¼c; buckwheat, 5½@6½c. All of the extracted is governed by quality and flavor in the range of prices, the lowest figures in either of the colors applies to the sour, or off-flavored, and unripened. Beeswax, 30c.

R. A. BURNETT & Co.

NEW YORK, March 19.—Our market is virtually bare of comb honey, and there is a fair demand for all grades. Fancy white is still selling readily at from 15@16c; No. 1 white at from 13@14c; amber at from 12@13c; buckwheat, 10@11c, according to quality and style of package.

As to extracted, the market is quiet and inactive, and a certain amount will have to be carried over again. Prices are declining somewhat, and if the honey is not moved in large lots, concessions will have to be made. We quote: California white, 7@7½c; light amber, 6½@7c; other grades and Southern, 65@75c per gallon. Beeswax very firm at 28@28½c, and for exceptionally fine yellow, 29c.

HILDRETH & SEGELKEN.

BUFFALO, Apr. 4.—Fancy comb, 14@15c; dark, etc., 8@12c, as to grade. Demand moderate. Fancy beeswax, 27@28c. BATTERSON & Co.

OMAHA, Mar. 30.—Demand fair; stocks light. Fancy white comb, 15@16c. Extracted moving slowly at 7@8c for white. We do not look for any particular change for the balance of the season, as present supply will just about be sufficient to supply the trade until new crop gets into market. PEYCKE BROS.

DETROIT, Mar. 21—Fancy white comb, 14@15c; No. 1, 13@14c; dark and amber, 10@12c. Extracted, white, 6½@7c; amber and dark, 5@6c. Beeswax, 27@28c. M. H. HUNT & SON.

CINCINNATI, March 21—The demand for comb honey is nearly over, the stock of it also well cleaned up. Fancy white brings yet 16c. Extracted is in fair demand; dark sells for 5½c; better grades bring 6@7½c; fancy white clover from 8½@9c. C. H. W. WEBER.

KANSAS CITY, Mar. 23.—Receipts light; demand normal at steady prices. Fancy white comb, 15@16c; no amber on market. Extracted, 8@9c. Beeswax scarce, steady demand, 25@30c.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

ALBANY, N. Y., Apr. 6.—Honey market quiet. Light supply and light demand now. The stock is well cleaned out, so will be no old honey to carry over this season. H. R. WRIGHT.

BOSTON, April 4.—Fancy No. 1 white in cartons, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. Absolutely no call for dark honey this year. Extracted, white, 8@8½c; light amber, 7½@8c. Beeswax, 27c.

BLAKE, SCOTT & LEE.

SAN FRANCISCO, Feb. 6.—White comb 13@14 cents; amber, 11¼@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber, 6¾@7¼c; amber, 5½@6½c. Beeswax, 26@28c.

Considering the light output of honey last spring from California apiaries, present offerings are of tolerably liberal volume and are mostly of amber grades. The market is slow at the quotations. It is reported on good authority that adulterated and imitation honey is being dealt out in considerable quantity, which accounts in a great measure for the very limited business doing in the pure article.

1901—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog.

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☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

WANTED!

25 to 50 colonies of bees in good condition. Must be cheap.

S. J. DUNNE,
165 S. Forest Ave.,
11A6t RIVER FOREST, COOK CO., ILL.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

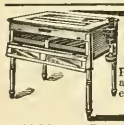
	5lb	10lb	25lb	50lb
Sweet Clover (white)	70c	$1.20	$2.75	$5.00
Sweet Clover (yellow)	$1.50	2.80	6.25	12.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	90c	1.70	3.75	7.00
White Clover	90c	1.70	4.00	7.50
Alfalfa Clover	80c	1.40	3.25	6.00
Japanese Buckwheat	30c	.50	1.00	1.60

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.



200-Egg Incubator for $12.00

Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.
GEO. H. STAHL, Quincy, Ill.

46A25t Please mention the Bee Journa.

I ARISE

To say to the readers of the BEE JOURNAL that

DOOLITTLE...

has concluded to sell QUEENS in their season during 1901, at the following prices:

1 Untested Queen	$1.00
3 Untested Queens	2.25
1 Tested Queen	1.25
3 Tested Queens	3.00
1 select tested queen	1.50
3 " " Queens	4.00
Select Tested Queen, last year's rearing	2.50
Extra selected breeding, the very best	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

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We guarantee satisfaction. ⁂

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS. PATENT WEED-PROCESS SHEETING.

Why does it sell so well? ⁂

Because it has always given better satisfaction than any other.
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Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

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Very fine pure-bred **BARRED PLYMOUTH ROCK** Chickens and Eggs for sale **at very low prices.**

LANGSTROTH on the HONEY-BEE—Revised
The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

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$15.00 and $25.00 Queens

Having a Measured Tongue Reach.

The call for queens of our celebrated $200 imported mother has been so great that we have decided, in addition to the $2.00, $4.00, and $6.00 grades of this stock, to offer some $10.00, $15.00, and even $25.00 of this same blood. But these prices are for tested queens, **the tongues of whose bees have been measured.**

The $10.00 queen is guaranteed to produce bees with a tongue-measurement of 19–100.

The $15.00 queen, 20–100.

The $25.00 queen, 21–100.

These last are very rare and with one exception this (21–100) is the longest tongue reach yet secured. We reserve the right, when we do not have the stock with the tongue reach called for, either to return the money or to send the next lower, remitting the balance. It would be well for our friends to put in their orders at once, and as soon as we get the grades we will send notice. When the money is sent, the queens will be forwarded. These will be put up in the very best manner possible; and while we guarantee safe arrival in good order to any point in the United States, on any railway line, we will not guarantee safe introduction. Such valuable queens should be releast on hatching brood.

N. B.—It seems as if it ought not to be necessary to say that no one but a queen-breeder or a large honey-producer should order these high-priced queens; but it is a fact according to our experience that beginners with only a few colonies will order our highest priced imported queens. Such bee-keepers have no more use for such queens than a pig has for a wheel-barrow.

THE A. I. ROOT CO., Medina, Ohio.
U. S. A.)

☞ **GEORGE W. YORK & CO.** 144 & 146 Erie Street, CHICAGO, ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., APRIL 18, 1901.

FORTY-FIRST YEAR
No. 16

WEEKLY

MR. M. B. HOLMES,
Director of the Ontario Bee-Keepers' Association.
(See page 244.)

THE AMERICAN BEE JOURNAL

PUBLISHT WEEKLY BY

GEORGE W. YORK & CO.

144 & 146 Erie St., Chicago, Ill.

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The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec01" on your label shows that it is paid to the end of December, 1901.

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Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey commissionmen.

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LONG-TONGUED BEES ARE DEMANDED NOW.

ONE Untested Italian Queen FREE as a Premium for sending us TWO new subscribers to the American Bee Journal for one year (with $2); or, one Tested Queen free as a premium for sending us FOUR new subscribers (with $4.00.)

We have arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us the coming season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

Orders for these fine, "long-reach" queens will be filled in rotation—"first come, first served"—beginning about June 10th. It is expected that orders can be filled quite promptly, as a large number of nuclei will be run. All queens will be guaranteed to arrive in good condition, and all will be clipt, unless otherwise ordered.

CASH PRICES of these fine queens will be as follows: Untested, $1.00 each; Tested, $2.00 each. Send all orders to

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28 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 28 cents a pound—CASH—for best yellow, upon its receipt, or 30 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., CHICAGO.

Best White Alfalfa or Basswood Extracted Honey

ALL IN 60-POUND TIN CANS.

ALFALFA HONEY.....

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.

BASSWOOD HONEY.....

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms in Wisconsin. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

A sample of either, oy mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. The cans are boxt.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., APRIL 18, 1901. No. 16.

Editorial Comments.

Are We Businesslike? is a question askt by Arthur C. Miller in the American Bee-Keeper. He thinks bee-keepers do not equip themselves in a way to do their work in the most economical manner. Too many try to make their own hives, or get along with a cheap bee-smoker. He says, "If the business is worthy of your attention at all, it is worthy the best tools and implements to do it with. Perhaps you can not spare the cash for many things needed; if not, then get the most important thing first, and the others as you can."

Freight Rate on Comb Honey.—On page 211 we called attention to the fact that the Western Classification Committee had before it a proposition to raise the freight rate on comb honey. We also urged that everybody interested should address a letter to Mr. J. T. Ripley, chairman of the Western Classification Committee, Room 604, Great Northern Building, Chicago, Ill., protesting against the proposed injustice. Among the responses to our editorial we have received the following from an Eastern commission firm:

BOSTON, April 6, 1901.

GEORGE W. YORK, & CO., Chicago, Ill.

Gentlemen:—We have noted with considerable interest your editorial on "Freight Rate on Comb Honey," in your issue of the 4th inst., and we heartily approve of the sentiment that you have exprest.

It seems to us that this matter should be gone into very thoroly, and everything possible done to "head off" any such move on the part of the railroads.

It has always seemed to us a most unfair thing that there should be such a wide difference in the rate between honey in the comb and extracted honey. An example of this occurred in our own experience last fall. We found the rate on extracted to be $1.10 per hundred pounds, from California to Boston, while on comb honey it was $2.30 per hundred; and at the same time, in response to our question as to why a discrimination was made against the comb, the reply was, "owing to the extreme risk taken." Directly opposed to this was the fact that the railroad insisted that the goods be shipt at owner's risk.

Now, we quite fail to see why there should be any such great difference between the two classes as exists, when the comb is taken at owner's risk, thereby absolving the railroad from any responsibilities; and yet at the same time they seek to charge for it. It seems like the old case of trying to "eat the pudding and have it, too."

Would it not be a good plan for you to draw up and insert in your next issue a form of petition asking that all of your subscribers sign the same and send it to you, and your good self in return send it directly to the railroad committee?

We suggest this as we have found invariably that united effort accomplishes more than spasmodic or divided. Whatever is every one's business surely ends up by being no one's, and we believe that with your wide and influential position much could be accomplisht by you.

Yours for the cause,

BLAKE, SCOTT & LEE.

In reply to the foregoing most excellent letter, we would say that we had already sent in our protest, as strong as could make it. What is necessary now is, that all the honey commission firms and comb honey shippers everywhere shall simply pour in their letters vigorously protesting against the proposition to increase the present too-high freight-rate on comb honey. They should be mailed to Mr. Ripley as above directed.

What you should ask for is a rating of 1st Class—the present rating is 1½ times 1st Class. It should be lowered instead of raised.

The reasons we gave why lower rating should be made were these:

"The business will not stand such rates. In bulk and value honey compares favorably with 2d Class articles. Under the provision of Rule 4, the carrier assumes no risk whatever for loss or damage. Covering the glass fronts, or packing in plain wooden boxes, would be no advantage, as the fact that the goods can be *seen* insures careful handling. Honey in plain wooden boxes will be thrown around roughly, the same as any other freight."

Other reasons will suggest themselves to our readers. Let us urge immediate action. Write at once—before you do another thing—if you wish to help prevent the enactment of an unjust ruling on the part of the railroads. Many protests coming from all sections of the country will have great weight with the Committee. Mr. Ripley will see that all are properly presented. Send them direct to him, and make them strong, but courteous.

Spraying During Bloom.—Greeen's Fruit-Grower is one of the leading authorities on the subject to which it is devoted. In the March issue it gives some excellent suggestions on spraying fruit-trees, and urges that it be not done while in bloom. Here is what it says, and every bee-keeper should not only read it carefully, but see to it that his neighbors read it—better get your local newspapers to copy it:

SHALL WE SPRAY TREES WHEN IN BLOSSOM?

In the coming time, to insure success in fruit-growing the fruit-grower will be obliged to manage his orchard in accord with scientific principles. Perhaps farmers with little scientific knowledge will be able to manage an acre or two so as to produce all the fruit required for home consumption; but to grow fruit for market so as to be able to compete with those who grow fine, first-class fruit, he will be obliged to know enough of entomology to know what poisons to use to destroy the different species of insects, and also when to apply those poisons to effect greatest results, and at the same time do the least harm to the trees or fruits. He will also need to know enough of fungology to be able to combat the different kinds with remedies, when those remedies will be most effectual. As it happens, most of the insect enemies come into active life with the first warm days of spring. A few warm days will hatch the eggs in which the insects have past the winter, or cause the larvæ, which have spent the winter in pupæ, to leave their winter abodes and commence crawling over the tree or plant on which they have wintered, in search of the tender leaves which form their most appropriate food. The instinct of the maternal parent guides her to deposit her eggs close to suitable food for the young larvæ. Hence we learn that some of the most formidable insect enemies of the fruit culturist—the bud-worm, the case-bearer, the apple-leaf folder, the leaf-crumpler, and several others a little less destructive, are ready to enter the opening bud and commence eating before it is fully expanded, and those very formidable enemies, the tent-caterpillar and the canker-worm, soon follow. There is no period in the life of those insects when they can be so easily destroyed by arsenical poisons as when they first begin to feed. A weak mixture of arsenic will then destroy them while a much stronger mixture may fail to do so when they have attained to larger growth. It is evident, then, that apple-trees should be sprayed with Paris green, or other forms of arsenic, when the buds first begin to swell, certainly when the leaves begin to unfold. As many kinds of fungi commence to grow with the first warm days of spring, Bordeaux mixture can be profitably mixt with the arsenical poison.

A few years ago, from a mistaken idea of the time when the codling-moth first lays her eggs, orchardists, fearful that if they waited until the apple-blossoms fell it would be too late to destroy the larvæ, sprayed their trees while in blossom, and bee-keepers complained that their bees were poisoned, and prevailed upon our Legislature to pass a law forbidding spraying while trees are in blossom. Many orchardists felt greatly aggrieved by this law, asserting that they were forbidden to spray just when spraying would do the most good, and that they must sacrifice their apple-crop upon their own land, for the benefit of the bee-keeper who had no claim upon their orchard as a bee-pasture. More recently, a careful observation of the habits of the codling-moth led to the discovery that she does not deposit her eggs immediately after the blossom falls, but several days later, and that instead of placing them in the calyx, or blossom end of the fruit, as had always been supposed, she lays them upon the side of the young apple, gluing them to the rind, and that when the egg hatches the larvæ crawl over the fruit in search of a place of concealment, which they generally find in the partially closed calyx. This seems to show that there is no occasion for haste in spraying immediately after the blossoms fall, but

that any time before the calyx closes will answer, when the little cup may be filled with the poisoned water ready to give the worm an inhospitable welcome to its first meal.

Still more recent investigations show that it is not only not necessary to spray for the codling-worm when the trees are in blossom, but that it is a positive detriment to the fruit to spray at such a time. At the late meeting of the Western New York Horticultural Society, Prof. S. A. Beach, of the New York State Experiment Station at Geneva, detailed some experiments he had made in spraying apple-trees, when in bloom, with Paris green. He experimented in two orchards in Ontario County, and two in Niagara County. Had sprayed some trees in all of the orchards and left others contiguous without spraying. All the trees were full of blossoms. On the trees sprayed, but few apples set, a very large proportion of the blossoms falling, apparently, before the fruit set in, while on those not sprayed a very large crop of fruit grew. To make the test still more conclusive, he selected trees very full of blossoms alike on both sides, and sprayed one side of each tree, leaving the other side unsprayed. The result was, on those sides sprayed, the fruit set very sparsely, while on the opposite side, not sprayed, a heavy burden of fruit grew. Prof. Beach came to the conclusion that where you fairly hit an apple blossom with Paris green strong enough to kill insects, you will pretty certainly kill the blossom. The organs of reproduction in fruit-blossoms, when fully exposed, are very tender and easily killed. A slight frost, or a long, cold rain, will often leave an orchard covered with blossoms, with little or no fruit. If these experiments shall be confirmed we shall confess that the Legislature "builded better than it knew;" that while protecting the lives of the bees it prevented fruit-growers from destroying their fruit.

The foregoing would seem to annihilate the dangerous advice given by a certain manufacturer of spraying outfits who advises—yes, urges—fruit-growers to spray while their trees are in full bloom. The fruit-growers and bee-keepers should in some way unite in order to prevent the spreading of such harmful instructions as to the spraying of fruit-trees, and do all in their power to have the quoted paragraphs from Green's Fruit-Grower given a wide reading. It is not only in the interest of bee-keepers, but as much for the benefit of the fruit-growers themselves. There should be unity of effort between these two classes of people in order that each may win the best results.

Beginning Bee-Keeping.—We have lately received quite a number of letters from people who are contemplating embarking in the bee-business. And the questions they are asking are simply bewildering to a busy man.

Now, we don't object to being helpful along the line of furnishing all the information we possibly can to all enquirers, but we must be allowed to object when it comes to expecting us to sit down and copy out several times a day all that is found in the "A B C of Bee-Culture," "Langstroth on the Honey-Bee," and "The Bee-Keepers' Guide." The best we can do is to advise the purchase of one or all of those three books, in connection with a year's subscription to the American Bee Journal, and then let "the other fellow" sit down and "drink in" all he wants.

Every one who intends keeping bees should first get a good supply of the best bee-literature to be had, and thus be able to answer many of his own questions. Self-help is the best help. Each should by his own efforts inform himself as far as possible, then when he has exhausted his own resources, call upon others. First get and read a good bee-book thoroly, then get the bees. Then read your book again. Then you will be ready for a good bee-paper, and, very likely—more bees.

Finding Queens is frequently a very difficult and annoying procedure. Mr. D. H. Coggshall's method is thus described in the Bee-Keepers' Review:

"Fill a hive with empty combs, set it upon the stand of the colony containing the queen that is to be found, setting the colony to one side. Put a queen-excluding honey-board upon the top of that. Now take the combs, one at a time, from the colony, and shake the bees into the empty hive. The bees will at once run down upon the empty combs below, and the queen is easily found upon the top of the queen-excluding honey-board."

Sowing Cleome Seed.—We have had several enquiries as to the sowing and growing of cleome, or Rocky Mountain bee-plant. Will some one of our readers who has had experience with this plant, kindly furnish the information askt for, especially giving the time of sowing, the preparation of the ground, etc.? Does it grow on dry or wet land, and in what part of the season does it bloom? Does frost kill it when it is young? We shall be pleased to publish an article covering all the points in connection with this subject.

The Premiums offered this week are well worth working for. Look at them.

The Weekly Budget.

Mr. J. C. Wallenmeyer has been engaged to conduct the apiarian department of the Poultry, Bee and Fruit Journal.

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Mr. C. P. Dadant was in attendance at the meeting of the Chicago Bee-Keepers' Association, held April 4th. It was one of the most successful meetings, both in numbers and interest, that the Association has yet had. And very much was due to the presence of Mr. Dadant. All united in the hope that he will come again.

* * * * *

Prof. J. C. York, principal of the high school at Girard, Ohio, writing us March 26th, said:

"I want to congratulate you upon the skill and taste you have displayed in adding improvement to improvement in the American Bee Journal. Really, it seems to me as much superior to the Journal of 1893 as the new Deering self-binders are superior to the old low-down that were in use about 18 years ago. I enjoy "The Home Circle."

* * * * *

Stenog is accustomed to begin his department of "Pickings from Our Neighbors' Fields" in Gleanings in Bee-Culture with an original rhythmical stanza. Lately he had this:

"Don't kill the pretty bumble-bees
That hum around the *barn*;
They'll bring the price of clover down,
But ne'er a person *harm*."

Stenog certainly must have been sleeping in the barn on a cold night and suffered much harm from it, or he wouldn't be guilty of trying to make "barn" and "harm" rhyme. Now, if he'd had the bees humming around the *farm* it would have been all right—his stanza would have been less harmed.

We used to try to compose poetry, but it usually turned out to be such decomposed stuff that we long since have discontinued our efforts in that line. Shouldn't wonder if Stenog would soon follow our good example, unless he reforms, and treats the King's English more kindly than in the sample quoted above.

* * * * *

Mr. M. B. Holmes, of Ontario, Canada, is presented on our first page this week. Those of our readers who were present at the Buffalo convention in August, 1897, will recognize it as the picture of the eminent Canadian who contributed the valuable paper at that gathering, on "The Progress of Bee-Keeping in Canada."

Mr. Holmes, for many years, has been connected with the Ontario Bee-Keepers' Association, and that he enjoys the confidence and respect of the members of that great organization is proven by the fact that he has at times held the highest positions of honor within the gift of the Association. He takes a deep interest in all matters pertaining to bee-keepers, and readily responds to the demand of any project which will forward the interest of our industry.

The Ontario Bee-Keepers' Association made an exhibit of 40 tons of honey at the Colonial and Indian Exhibition in London, England, in 1886, Mr. Holmes' contribution to this exhibit being one and one-fourth tons.

Until a few years ago Mr. Holmes resided on his fine farm, but finding it not to be a very good place for a constitution not always the best, he rented his beautiful country home, and purchast a commodious brick residence in the beautiful and thriving village where he now resides, and has plenty of leisure time. He commenced bee-keeping in 1881.

It is always a pleasure to us to present to our readers portraits of the prominent bee-keepers among our Canadian "cousins." They have some of the very best representatives of our pursuit over there. We shall never forget attending the National Convention held at Toronto, in 1895, where it was our good fortune to meet many of their number, such as J. B. Hall, Wm. McEvoy, R. McKnight, F. A. Gemmill, etc. They are all wide awake, and take a great interest in everything pertaining to the apicultural business.

On another page of this issue will be found the paper read by Mr. Holmes at the last meeting of the Ontario Bee-Keepers' Association.

Contributed Articles.

Saving Section-Combs From Foul-Broody Colonies.

BY WILLIAM M'EVOY.

LAST fall foul brood started in one of my out-apiaries. I had the affected colonies removed out of reach of the other bees, and then burned the brood-frames and the hives. My apiaries are arranged for comb-honey production, and at the close of the season the supers from all the apiaries were brought in, and thru mistake those from the diseased apiary were piled in with the others, and now I don't know the one from the other.

I find that I have about 200 supers full of sections which contain empty combs, and combs partly filled with honey. Will you kindly tell me if those supers, just as they have been taken off the hive, and ready for use, can be safely used the coming season without spreading the disease?—ILLINOIS, U. S.

In the honey season bees store honey in cells where foul-brood matter has dried down, just the same as they do in other empty cells, and when the bees, in making room for brood in times of honey-flows remove the unsealed honey out of the diseased cells to cells partly filled with good honey in the sections above, it will disease it at once.

If you had extracted the honey out of those sections and then placed them back on the foul-broody colonies, and left them there until the bees lickt them out clean and dry, that would have made them perfectly safe to use on any colony of bees. But as the case now stands, you can not place the sections that *contain honey* on your brood-chambers without spreading the disease, because some of the sections that were taken off the foul-broody colonies will have a little of the diseased honey in them, and the bees will feed some of it direct to the larvæ as soon as you put them on.

It costs you something to buy these sections, and comb foundation, and it took some time to put the foundation into over 5,000 sections, and your bees added many dollars to their value when they drew out so much foundation into nice combs, and if you had to destroy the 200 supers and their contents (to be safe), it would be a serious loss to you. You don't need to destroy anything if you treat as follows:

Take every section that has *any honey in it*, out of the supers, and bring them into a warm room, run the temperature up above summer heat, and leave them there until you can extract the honey out of them easily, then *extract the honey out of every section*, and after you have done this *put all of these sections into supers by themselves*. Then put frames with comb foundation starters, into empty hives, and on these place queen-excluders and the *extracted sections*, and in the honey season hive your swarms in these prepared empty hives with the extracted sections on where you will get them filled up and finisht in the shortest possible time.

All the sections that you have with *clean, dry combs* in are perfectly safe to use on any of your old hives of bees. When the robbing season is over, and your bees are working nicely in fruit-bloom, take the combs out of the brood-chambers (in the apiary that was diseased), and hold them so the sun can shine into the bottom of the cells, and very carefully look for stain marks of foul brood on the lower side and bottom of the cells. Foul-brood matter glues itself fast to the lower side and bottom of the cells when it is drying down, and there it will remain just as long as the comb lasts, and *such combs can not be made safe to use*, but it is entirely different with *clean, new, white combs that never had any brood in*—they are perfectly safe to use on any colony of bees after they have been lickt out by the bees until they are *clean and dry*.

If you find a few cells with the stain marks of foul brood in any of your colonies (a thing you might easily overlook), treat such colonies during the honey-flow, but don't waste any time on empty hives that foul brood has been in, because they can not disease any colony of bees.

Woodburn, Ont., Canada.

Producing Extracted Honey—Getting More of It.

BY C. DAVENPORT.

IN order to understand how more surplus extracted honey, with less work and less swarming, can be secured here by the method I am about to describe, if only eight frames are allowed for a brood-nest, than can be when a larger number are used, it will be necessary for me briefly to describe a few things in regard to my locality, the most important of which is that in the spring, after the weather becomes warm enough for brood-rearing to progress rapidly, there is but a short time, comparatively, until the white harvest commences. Eight frames are all or more than 90 percent of the queens can keep full of brood and eggs before clover bloom; afterwards thru June, July and August, a larger number of combs, if the queens are allowed access to them, will be kept full of brood. But before this extra brood matures into field-bees, the battle has already been fought—like Blucher at Waterloo, they appear too late.

In a locality where the weather, or the time of the main flow, is such that a young queen can occupy a larger number of frames in time so that the brood will mature into field-bees to be of service during the harvest, it would, without any question, pay to use a larger brood-chamber. Usually here there is enough gathered from early spring until clover bloom to keep brood-rearing up. Strong colonies often secure more than they can use for this purpose, but what is gathered before clover is dark and hardly fit for table use. Now, with strong colonies run for extracted honey, instead of putting on the regular full-depth extracting combs, a set of shallow frames is given them to store this dark spring honey in, and what they do not use for brood-rearing is all put in them, for they enter and occupy these shallow combs almost as soon as they are placed on the hives. Often when the white flow commences these strong colonies will have hardly a pound of honey in the brood-frames, tho the super of shallow combs may be nearly full. But, as I have said, this is dark honey, and if it was in the regular extracting frames it would have to be extracted, or the first extracting of choice white clover honey would be so badly colored by it that it would not sell for much if any more than half what pure clover would bring.

Now note this: By using this super of shallow combs, we save one extracting, and keep the brood-nest bare of stores. Here, just at or soon after, the commencement of the main flow is the time strong colonies prepare to swarm, but when we remove this super containing all their stores, a full-depth story of empty combs is given. Zinc is placed between the two stories, two or three of the frames containing the most hatching brood are placed in the upper story, and a like number of empty combs from the upper tory are placed in the center of the brood-nest below. A colony so treated will, with me, seldom offer to swarm, no matter how good the season is, provided they are given plenty of drawn comb to store all the nectar they can gather, for there is practically no honey in the brood-chamber at any time during the swarming season.

With 10-frame hives the case is different; the queen, as I have explained, can not occupy more than eight of these frames, and the unoccupied space will always be filled with honey before the bees will store any in shallow frames overhead, and honey in the brood-chamber is a great factor to induce swarming. The frames containing the most honey can, of course, be removed to the upper story at the time it is set on. I have often done this, but it does not have the check on swarming that the entire removal of all stores does. But I have found that with these 10-frame hives, even if the combs containing the most honey are entirely removed, swarming is more apt to occur than with 8 frames, for the reason that with 10 frames, storage in the brood-chamber is more apt to be commenced, or rather continued, and when once started it is apt to be kept up until the queen becomes crowded, then swarming is the natural outcome. Even when two full-depth stories are allowed for a brood-chamber, I have often found that the queen would become crowded enough to induce swarming unless a close watch was kept.

If one has time during the main flow to overhaul and extract from these large brood-chambers, swarming can largely be prevented, or if 3 or 4 stories are used, and the queen is allowed access to all of them, but little swarming will take place. But when we come to extract from such at the end of the flow, the amount of surplus found after overhauling the whole outfit will be disappointing if compared with what is secured from colonies whose queens are confined to eight or ten frames.

By the use of these half-depth stories, I have been able to overcome most of the difficulties I found about producing extracted honey in a large way, first in regard to this dark surplus gathered in the spring. When the regular full-depth extracting frames were set on first, most of them had to be extracted before the white flow and with a large

number of colonies this would mean a good deal of work at a time when other important work connected with my regular business of producing comb honey needed to be done; and, besides, after extracting this dark honey there would enough remain in the combs to shade the first extracting of white honey so it would not be first-class. Then when the queens are confined to eight or ten frames I found that these colonies would almost always be too light in stores for winter, so that a good deal of feeding was necessary; but with the shallow frames I am able also largely to overcome the work of this, for my practice is to set these supers at the time they are removed, on colonies that are to be run for comb honey, then as soon as they get well started to storing in them, they are raised up and a super containing sections is put on next to the brood-chamber; by the time a second super is required the one containing the extracting frames is stored in the honey-house until after the white flow, when they are again, if not already full, placed on the colonies being run for extracted honey, in order to have them all filled solid during the fall flow. Then all the work about feeding these light colonies is to set on a super containing as many of these filled combs as seems necessary, and from experiments with feeding in this and a similar way with unfinisht sections, I believe a colony will winter in a cellar kept at a temperature of 45 or 50 degrees just as well with their stores in a super as they will if they are in the combs of the brood-chamber.

Last spring I set some of these supers containing honey in the honey-house as soon as they were removed from the extracting colonies, the fore part of the season—but little of this was sealed, but it kept without granulating or souring until the commencement of the fall flow.

The only trouble I have about this plan is that moths are liable to damage these shallow combs greatly during the time they are stored. In some manner the moth-eggs get in the combs while they are on the hives. Bi-sulphide of carbon will overcome this with but little work or expense, provided trace enough of its deadly fumes does not remain in the honey to make it unfit for winter stores. I expect to know something definite in regard to this soon, for last fall I subjected all the winter stores of five colonies to its fumes for four hours, which is longer than is necessary to kill moth-worms and destroy the vitality of the eggs that may be in the combs at the time they are treated.

Southern Minnesota.

No. 2.—Drone-Bees and Their Utility.

Can We, and Shall We, Control their Production?

BY C. P. DADANT.

WE have seen in a former article, why Nature has decreed the rearing of so many drones in each hive. It is in order that each young queen may readily find a mate at her first bridal flight. We now will consider why some colonies build more drone-comb than others.

When a queen is young and healthy she lays plenty of worker-eggs and seems to prefer it, so if there is any understanding between the queen and her bees, the bees will, to please her, build mostly worker-comb. Thus a new swarm, with a strong and healthy young queen, will usually begin by building all worker-combs. But if there is a lull in the crop and some of the brood hatches out of the comb already built, the queen will have plenty of room ahead, and the few remaining combs will be drone-comb whenever they are built. For tho the queen prefers the worker-comb, we must take notice that the workers prefer to build drone-comb, for it is more quickly built and is just as good as the other to contain honey. It is evidently for this reason as well as because they feel the need of drones, that a queenless colony will build almost nothing but drone-comb. If we supply a new swarm with a large quantity of worker-comb already built, saved from diseased colonies of the previous winter, and give this swarm only one or or two empty frames, the result will almost invariably be drone-comb in those frames, for the queen has plenty of room to lay and the bees do not see the need of worker-cells.

In the same manner, if the crop is already well on, and the queen is getting tired of incessant laying of worker-eggs, and seeks for drone-cells as a rest, all or most of the comb built will be drone-comb. In such instances a much greater proportion of drone-comb will be built. In early spring, before the bees have begun the busy season, and the hive is only partly full of brood, if at that time we remove a central comb, and replace it with an empty frame in the middle of the brood-nest, in nine cases out of ten the comb will be of worker-cells, because the queen needs worker-cells in this warm spot, even tho there may be plenty of worker-cells unoccupied at the outer edges of the brood-nest but too cold for her to reach. But if the same thing is done in the warmth of the honey crop, the result will be the reverse. In the statement of the foregoing conditions I do not wish to be understood as laying an iron rule. The actions of the bees are subject to many varying influences, and results are not always what may be expected, but the propositions above will prove correct in most instances. So if we wish to have the greatest possible amount of worker-comb built by the bees, without using comb foundation as a guide, we must, as uniformly as practicable, have the combs built by natural swarms with young queens, and these swarms must not be supplied with a portion of their combs already built. In short, we must either supply the swarm with all combs built or with none.

Since the number of drone-cells in a hive depends very much upon the conditions of the swarm at the time that the combs were built, it is still more difficult to give an approximate idea of the number of drones that will be reared in an average season by an average colony. By looking thru a number of works on apiculture, I find that the proportion of drones to worker-bees, in the swarming season, has been variously estimated from one-tenth to one-thirtieth. There is no doubt that it varies a great deal. There is no doubt also that the difference in results is in favor of the colony containing few drones, and yet Cheshire calls our attention to the fact that it is the colonies that rear the most drones which have the best chances of self-reproduction, since not only their queen stands a better chance of mating, but the queens of other colonies are also more likely to mate with drones of the most prolific colony, as they are most numerous. Is it advisable for us to control the production of drones in a hive?

Is the drone in the hive of use for other purposes than for the fertilization of young queens? Are the drones of one colony as good for breeding purposes as those of any other colony? If we decide upon the necessity of controlling the drones, is it best to destroy them after they are hatcht, or while they are hatching, or is it best to prevent their production?

The first two of these questions would better be considered together, for it is the greater or less usefulness of the drones which will cause us to decide whether it is desirable to control their numbers. It has been asserted over and over again, that the drone is needed in numbers not only to supply mates, readily found, for the young queen, but also to keep the brood warm in spring. Dzierzon and his English translator, Abbott, disagree on this subject. Dzierzon says: "The sole purpose of the drones is to fertilize the young queens. As in the vegetable kingdom, pollen, on the male part of the flower, is produced in abundance, so does Nature produce an abundance of males in a colony of bees, in order that the queen, upon which the well-being of the colony depends, may be fertilized the sooner. It is obvious that drones were not also intended to produce heat in the hive, as has often been attributed to them, for when the young queen has been successfully fertilized and begun to lay eggs, which perhaps at the same time cool weather sets in, at this very time, when the temperature in the hive would require to be raised, the drones are driven out as being no longer useful."

His translator, Abbott, says in regard to this: "We can not accede to the author's assertion that the fertilization of queens is the sole purpose of drones' existence. It is well known that when a swarm has left the hive there is often but a handful of worker-bees left at home to care for the huge mass of brood in all stages, that the hive contains, and should a cold night follow a swarming day, as is often the case, this handful of workers would find it impossible to maintain the necessary heat in the hive, and there would be great loss of brood and bee-life."

Evidently neither of these writers lays any value upon the drone as a warmth-producer at the beginning or the end of a season, and with good cause, for, in order that the drone should produce heat, it is necessary that he himself should be reared with expenditure of both labor and heat on the part of the worker-bees at a time when they are not numerous. And if in the place of, say 2,000 drones, we should secure the same space of worker-brood, say 3,000 worker-bees, it is clear that they will not require any more

heat to be produced, and will in their turn produce as much as the drones would have furnisht. Therefore, the only contention between the two writers, that needs any consideration, is whether or not the drones that remain after a colony has cast a swarm are of more use in keeping the hive warm than workers would be.

The contention of Abbott is that if they had been workers, they would have gone with the swarm,while being drones they stay in the hive. This is not altogether correct, for a colony with many drones shows many drones in its swarm. But perhaps more of them return home than of the workers. Yet, Dzierzon, we must remember, is a great observer; he it was who discovered parthenogenesis in the queen-bee and we must be sure that he does not make statements without good cause, but perhaps the difference in observations comes from the difference in location. Dzierzon experimented in Germany, while Abbott experimented in England, and there is but little doubt that the summer nights are cooler in England than in Germany, so this would explain Abbott's regard for the possible use of the drones in keeping the brood warm for a day or two after the casting of the swarm. I say a day or two, because we all know that at that time the bees are constantly hatching in great numbers, and it takes only a short time to recuperate the loss enough to keep the hive warm. In a colony that swarms, the daily hatch of worker-bees is between two and three thousand, sometimes more, and but little time is needed to recuperate the strength of the colony so as to enable it to take care of itself. Then let us suppose a colony with a minimum of drones. Is it very likely that this colony will actually suffer? Are such instances on record? And in domesticity, is it not entirely practicable for the apiarist, if a hive is left too bare of its bees, by the swarm, to mend this defect by returning a number of the bees to the old hive, after the swarm is hived? Surely, this one item of a possible use of thousand of idlers for a day or two for the sake of warmth, is not sufficient to justifiy their presence. They are the very ones that help induce the bees to swarm early, by their noise every warm day, and by their encumbering presence on the combs at all other times.

So my conclusion would be that we should give but little attention to the possible use of drones for any but fertilizing purposes. If we can avoid the breeding of them, we must surely be well repaid by the additional number of workers that we can rear in their stead.

I will next consider the different methods of getting rid of the drones, or of preventing their being produced, and of making a selection of them for breeding purposes.

Hancock Co., Ill.

(To be continued.)

Mediterranean Flour-Moth Infesting Honey-Combs.

BY PROF. C. P. GILLETTE.

IN the American Bee Journal for March 29, 1900, under the caption, "No Wax-moth in Colorado," I said:

"But there is a smaller moth that is generally distributed over the country, commonly known as the Mediterranean flour-moth, which I have repeatedly seen infesting honey-comb. The larvæ of this insect do not seem to care for wax or honey, but feed upon pollen, and perhaps propolis as well....and I have seen them in crated sections of comb honey."

FIG. 1. MEDITERRANEAN FLOUR-MOTH.

FIG. 2.—FRAME OF HONEYCOMB SHOWING COCOONS OF MEDITERRANEAN FLOUR-MOTH.

I do not wish to change a word of the short item referred to, but as some fear that my statements might lead a careless reader to think that this insect is common in crated sections of honey from Colorado, I should like to say further that such is not at all the case. As stated above, this insect seems to care only for pollen, and possibly propolis, but not for wax or honey. I do not suppose it would ever be found in sections of crated honey except where the sections are kept for a time in the same building or room with old honey-combs that are infested with this insect. It is only in two or three cases of this sort that I have seen the larvæ on sections of comb honey in sections. On one occasion I saw them in considerable numbers over a small number of sections, and on some of the sections they seemed to be feeding upon propolis which the bees had deposited in the corners in considerable quantity.

So this insect would only be of rare occurrence, at most, in section honey, and could no more be lookt for from Colorado than from other States, as it is a generally distributed and a well-known pest in flouring mills in this country.

To enable bee-keepers to recognize this insect and distinguish it from the old "wax-moth," I will refer them to the accompanying illustration (Fig. 1) from Insect Life, Vol. II, U. S. Dep. of Agr. The moth is shown at *a* and *b*, the larva at *c* and at the exteme right, and the pupa or chrysalis at *d*—all enlarged. The lines at the sides of the figures give the real lengths.

That these larvæ can infest old combs badly is illustrated in the reproduction of a photograph of a frame of old comb that is nearly covered with their cocoons, shown at Fig. 2. This engraving is from Bulletin 47 of the Colorado Experiment Station.

Larimer Co., Colo.

Queens—The Best None Too Good.

Read at the convention of the Ontario Bee-Keepers' Association at Niagara Falls, in December, 1900.

BY M. B. HOLMES.

AS stated in the program of this convention, I am to give an address on the subject of "Queens" and it may be presumed that the punster, as he scans the list, will see his opportunity. If he be a sporting man he will at once suggest "The Queen of the Turf;" or if he be a society man his thoughts will immediately become centered on "The queen of the party," force of habit and influence of association acting as a matter of course, as the prompter behind the scene in these and other similar flights of fun and fancy.

To this class of individuals, if such there be present, I have only to say, that this Association of practical men has convened in this city for purely practical purposes; that it is composed of individuals who are not speculative

merely, but operative in the strictest sense of the term; and that the only queens eligible for consideration at *this stage* of this regularly organized meeting of Canadian and American bee-keepers, are the queens of our colonies, and mothers of our most wonderful pets—the honey-bees.

The practical man, contemplating the advisability of entering upon any line of work or business, carefully studies the situation from every point of view, and, when fully convinced of its desirability as a lucrative venture, complies most assiduously with all the conditions necessary to the complete success of the undertaking.

That all business men are not thus thoro in calculation and execution, goes without saying, and it is also perhaps safe to infer that bee-keepers as a class are not without their failings as well.

But every bee-keeper knows, or thinks he knows, all about queens, and yet it would seem as if some—perhaps too many—bee-keepers are satisfied by merely knowing that *a queen* is in the hive, without any consideration as to her qualifications or ability for the duty which she is to perform.

The splendid hives and comb foundations of the day are certainly a boon which every true bee-keeper appreciates, but the great center on which success most largely depends—that "center" at which no "master" bee-keeper can err—is in securing "the good queen" for every colony.

What do I mean by "the good queen?" By the use of the term "good queen" I mean the queen that will do the largest amount of work in a given time.

The late Lorenzo Lorain Langstroth, who has been justly styled the Father of American Apiculture, describes a good queen in that marvelous work of his on "The Honey-Bee," as one that will lay 3,500 eggs per day for several weeks in succession during the breeding season.

What bee-keeper of any considerable experience has not had occasion to note the difference between good, medium, and poor queens? The colony with but a handful of bees, so to speak, gaining so rapidly in numerical strength as in some cases to exceed the more populous colony in the next hive in the actual amount of surplus honey stored? Thus demonstrating that *the good queen* was in the colony which had wintered poorly, whereas the well-favored colony had only a medium or poor queen.

Dzierzon, the great German bee-keeper and scientist, says, "Queens differ much as to the degree of their fertility."

Mr. Langstroth notes an observation made while transferring bees, by counting the eggs dropt on a black cloth in 40 minutes by the queens of four different colonies. The first queen dropt but one egg, the second, 12, the third, 18, and the fourth 20 eggs, in the stated time. This observation was made in the middle of April, and on July 15th the colony of the first queen was very poor, the second was of average strength, and both the others were very strong. Now let us apply the result of this observation to practice and see how it would figure out:

Take, for instance, an apiary of 100 colonies, the average annual yield of which is, say, 80 pounds of extracted honey per colony. Let us suppose that 25 of the 100 colonies are poor, 50 average, and 25 strong, and then try to solve the problem as to how the average yield of 80 pounds per colony is obtained. The poor colonies will gather about half as much surplus honey as the 50 of average strength, or say 40 pounds each; then in order to get the average of 80 pounds per colony for the whole apiary the 25 *strong* colonies must gather 120 pounds of surplus honey each. Now, if in accordance with the observation and deduction of Mr. Langstroth, as already noted, the difference between the poor, average, and strong colonies, is attributable solely to the difference of queens, then we are forced to admit that the mere act of tolerating the 25 poor queens has incurred an expense of 1,000 pounds of honey when compared with the average colonies, and 3,000 pounds when compared with the strong colonies, either of the items being sufficient to pay for all the *good queens* required, and have a considerable balance to the good. You may change the figures as you desire and the result will always show that the *poor* queens are heavy debtors, with no prospect of paying, and should under no circumstances be tolerated.

Keep the best, and only the best—the *very best* are the cheapest in the end—and an economy that prohibits the employing of the best queens is certainly a false economy.

The owners of Ayrshire, Jersey, Holstein or other stock, do not stop at merely knowing that their animals are thorobred. Their ambition is that each individual member of their herds shall be the very best of its kind; and should not bee-keepers study their own interests by copying the example of the stockmen in this regard? Yes, by all means.

One point more in this connection, and one which many bee-keepers scattered over the Province will do well to study and ponder carefully, and that is, the fact that the stockmen find that it pays to be a member of the Provincial Association, which is studying and advancing their interests.

Bee-keepers in the remote parts of the Province, into whose hands the Government Report may fall, will please make a note of this, and remember at the same time that the Ontario Bee-Keepers' Association is studying to advance your interests, and, like the stockmen, you will study you own interests by communicating with the secretary, Mr. Wm. Couse, of Streetsville, and secure membership in the Association which is trying to do you good.

In conclusion, I would say to those who have come expecting to hear a flowery dissertation on scientific queen-rearing; and to those who may have wisht that their favorite kind or race of queens would get an advance in the address—if such has been your anticipation, I can only tender you my sympathy in your disappointment. I said at the outset that we had met for practical purposes, and I have endeavored to give you a plain, practical talk on the topic assigned to me, and I hope my address and the discussion which will follow may prove a practical benefit, not only to those gathered in convention here, but to many of our fellows who are not privileged to be with us.

Ontario, Canada.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

SICKNESS IN THE HOME.

Our readers will wonder why the break in "The Home Circle." The cause is not far to seek. One of the links in our home circle snapt for the time, and the writer was the link. Strange what a difference it makes in the home when Sickness lays her heavy hand upon one of its members. My stomach, which has always been my weak member, became for an entire week the warring member. It struck—not for higher wages, but for less work. At least, that's what the doctor says. He says it's a warning. I repeat the thought above—how shaded the home seems when Disease forces her unwelcome presence into it. The well ones try to look cheery as the best medicine for the sick one, but it is such a perfunctory cheerfulness that even the dulled vision of the sick one sees that it has not in it the genuine quality. From every point of view, every home circle should make it its chief study to keep this unsavory presence—sickness—from its midst. I am sure if "The Home Circle" to-day is made a little somber by hints and suggestions regarding health and nursing, I will be more than pardoned.

There is no doubt that we are all agreed as to the importance of every member of "The Home Circle" working with both sleeves rolled to the elbow to court the best health and vigor. How to keep well, and be at our best physically, is a most important question. Our nation and people are making gigantic strides in a business way. Our commercial activities have taken a stupendous leap, and we are rapidly distancing all the other great nations of the world. Britain is alarmed, and even phlegmatic Germany is aroused at the threatening peril. Is there not reason when our balance of trade last year exceeded Germany's entire export trade? This is all very cheering. But all this implies nerve excitement, and if this is to keep on, as it surely is, it behooves every one of us to study how we may keep our health away to the top, that our balance in vigor and strength may even exceed our balance in trade.

HINTS ON KEEPING WELL.

I wish, now, to give some hints in regard to keeping well, which I am sure may well be observed by us all.

In the first place, we should remember the motto of the successful business man—"Outgo must always be less than income." We may well remember Macawber's words to David Copperfield; "Annual income, 20 pounds; annual expenditure, nineteen-six; result, happiness. Annual income, 20

pounds; annual expenditure, 20 pounds–six; result, misery." So, too, every one of us should study the health ledger. Is the outgo of energy in excess of the income of strength and vigor? Do the scales show that there is a daily or weekly loss? Do the lapsing energies as the morning clock stroke calls to duty show that our balance in the ledger is on the wrong side? Are there little, insidious ailments, like cough, headache, indigestion, that show that we should study more intently our physical status ere we find that health is gone to return no more? I think it is a safe rule to observe, never to tolerate the presence of ache, pain, or any bodily ill. If we find that such are with us, let us rest, change our habits, try anything to reach again the full equilibrium of our physical poise.

I fear too many of us are under the strain of excessive work. We are in it. It seems valuable to the community. We dislike to drop it off, any bit of it. How much better to drop a little than to have to give it all up, especially as the giving it all up will give us also a heart full of regret. I doubt if there is any phase of gospel truth which our people need more than this. We are caught in the whirl of national push and progress, and rush on without thought of the sure consequences. Paul knew. "Let your moderation be known."

Another evil which lays its heavy hand upon our American homes is that of irregularities. I doubt if any of us fully realize the importance to health of regularity in our daily habits. How many of us always breakfast, dine and sup at the same hour every day? How large the number of those who have no settled time to betake themselves to bed or to rise as the morning hour calls to duty and service. We can well learn a lesson from the dairyman in this respect. He finds that unless he feeds his cattle at the very same time each day, a greatly lessened milk-supply informs him of his mistake. Indeed, if the cow is not milkt at exactly the same time, the foam of the pail comes not so near the top. Even a change of milkers makes itself felt in the pail and pocket-book. We can hardly believe that the cow is as sensitive as "the human form, divine." If the cow is so materially disturbed by the lack of regularity, what may we conclude as to the effects of the glaring irregularities which enter so boldly into most of our American homes?

Who of us has not felt saddened as we have past thru the streets of great cities late at night, to see little children, whom Sleep should long since have claimed as her own, still thronging the walks? The very dash of our business-life makes it hard to preserve regularity in our home living. Society and business habits both offer a great premium on the habit of irregularity. Many of us have neglected our first caution, and so with Saturday night comes a threatening and overpowering weariness. This of necessity carries the sleeping hours of Sunday morning away into the day. Breakfast comes an hour or two later than on week-day mornings. Dinner instead of at twelve or one, reaches on to two or three, while supper very likely is omitted entirely. All the time the god of disease is dancing with very joy.

I know of two children that came into a home to bless and cheer it. I think neither would have been called very robust. The parents of neither were very strong. One of those children never had a doctor until maturity called her from the home circle. The other was hardly less fortunate for only once was a physician summoned, and that during the first trying summer, just at the critical time when the first year had made its span. Until well in their teens, these children were always in bed at just the hour which for all the first years was the good early hour of seven. The meal-time in that household rarely varied ten minutes, and this not simply on week days, but also on Sunday. I wish I could say something to impress upon our American people the importance, physiologically, of the observance of absolute regularity in the home life.

A third factor in maintaining good health in the household—perhaps in importance it should rank first—is the matter of good air. This is a free gift from God, and yet how many refuse even to take it. Southern California has a well-earned reputation for its salubrity of climate. Many come here that are held down by the fell grip of consumption, and soon find full recovery of health and strength. In most cases such receive permanent cure in case they remain in this goodly climate. I believe the great reason why so many find Southern California so helpful in regaining health and vigor, comes from the fact that here they breathe good, pure air. Our climate here, even in midwinter, is like the June of Michigan and New York. Warmth and sunshine come with each day and lure even the invalid out of doors where he may take full draughts of the blessed, life-giving oxygen. Many here in Southern California live the winter thru in tents, and thus, while they avoid all draughts, they are constantly bathed in an atmosphere almost or quite as pure as that outside.

I believe one of the greatest of health reforms would come if we could only convince our people that it is impossible to sleep in too pure an atmosphere. I would have all the windows open in the sleeping room, winter as well as summer, and the doors open into adjoining rooms also well ventilated. The sleeping rooms should be large, and it were better if only one person occupied the room. Indeed, we can not take too much pains in our sleeping rooms, that we may secure, even in the cold days of the Eastern winters, as good air as tho we slept under the open skies. In my own case, I have never been overparticular to keep the draughts from myself or children, and to-day they do not disturb us. However, I would not advise those who feel disturbed if they are in the current of air, to subject themselves to draughts. The very fact of the unrest will work mischief and very likely the draught *per se* do harm.

Another thing that will tend to lessen the disquiet of such ample ventilation in the cold winter nights is a full supply of covering. Let us court the breezes and the full vigor which the pure air will give us, but let us rest under such warm coverings that we will never wake in the night with a feeling of chill.

Consumption is, perhaps, the most-to-be-dreaded disease which steals in upon us to rob us of our loved ones. We know now, of a certainty, that it is not inherited. We do know that it is contagious, tho not so readily contagious as many other microbe diseases. If we will only fling open our windows and let in the pure, blessed atmosphere, sweet and clean as God has given it to us, we shall do very much to keep this grim presence from our home circles. We shall at the same time brace up the general vigor of the body so that other diseases which may be lurking hard by shall not find ingress into our beloved homes.

The last point which I shall urge in this article toward maintaining health is that of diet. I think without any question, the most of us eat too much. Our hard work, and very likely the fact that we have gone beyond the usual meal-time, has made us ravenous, and we can hardly wait the time of meal coming. The overthirsty horse left to itself at the watering trough will often in its greed for drink take so much water that death or lasting disease results. When we are so hungry, we are apt to eat rapidly, and before the appetite is satisfied we have overtaxt our digestive powers, possibly to our lasting injury. One of the wisest things to prevent this mistake is to cultivate assiduously the habit of conversation, and the best of social times at the table. This takes the attention, causes us to eat more slowly, and thus we feel satisfied before the stomach is unduly distended or the digestive powers too greatly overtaxt. Anything that tends to slow eating at the table is worthy fullest consideration in this relation of maintaining good health.

In a coming article, I shall aim to show how a happy, sunny disposition aids to keep disease from the home circle. Thus glad social intercourse at the table, does double duty, for it not only retards the food-taking, but it also ministers to the cheer and gladness of the circle about the table. We shall continue this subject in our next article when we shall not only discuss the sunny habit, but also give some hints regarding nursing.

CITY CHILDREN.

A problem of our time and country is what to do with the city children. A friend remarks that obedience among children is a lost art. He says no children now obey. Another friend says, The great danger of our time is irreverence. I believe both magnify the evils. If these sins are on the increase, is it not the result of such herding of our children as city and town life necessitates? I hope all our readers will think over this problem. In my next article, I shall tell how a friend has attempted to solve the difficulty in part. I have ever felt to thank God that my childhood was spent in the country. I am equally glad that idleness was a stranger to my childhood days. How can we occupy the city children and preserve them from evil companionship?

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

The Afterthought.

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

SWARMING ON TEN FRAMES.

It is rather a surprising result to find more colonies on ten frames swarming than of those on eight frames; but I do not wish to cast any discredit on the experiment. Mr. Davenport does not claim it as a *rule*, to be found good in all years and all locations. The rationale of it seems to be that *sometimes* two more frames lead to an increase of population without which swarming would not have occurred. Page 150.

MEASURING BEES' TONGUES.

Wise chap of beedom, don't you know you *can not* measure a man's tongue—not to mention the other half of animate nature, to which the bee belongs? A tongue is a thing with great capacity for rubbering 'round. Best understood not by what it measures, but by what it does. Thus we reflect on the words of Adrian Getaz, page 150. Indeed it *does* seem to call for some explanation, how all the other members of the bee seem to be so uniform, and tongues alone *reported* with such variation. I can very heartily second the suggestion that all measurements of a surgical character should be regarded as tentative to a certain extent—useful and desirable, but not to be regarded as final, till confirmed by live bees of the same colony taking actual sweet out of an actual cavity. Something better than the old inclined plane and wire screen ought to heave in sight, to keep pace with the Twentieth Century. Too much depends upon keeping it level, and too many bees have to work at it, and work at it too long. Who'll give us a bunch of glass clover-tubes—or put two rectangular slips of glass together a twentieth of an inch apart holding honey between? The idea of the latter is that bees will quickly take the sweet out from all the edges as deep as they can reach, and leave things so as to be clearly measurable.

THREE "AFTERTHINKLETS."

A new edible for bees—and prohibition States—"cold water soust." Page 152.

Pretty bad score for house-apiary, 16 queens lost out of 26, and that in spite of vertical painting in strong colors. Page 153.

How about the bee-man who would fain exhibit to a wondering world 30,000 pounds of snowy sections from posies not in bloom yet? Counting unhatcht chickens hardly "in it." Page 164.

A VERMONT COUNTY VS. CALIFORNIA.

And so in Vermont one county produces ¾ of all the State product, and one forty-fourth as much as California produces. How much better to fish in a little brook where there are some fish than in a big, landscape-adorning river where there are next to none! Page 153.

ANOTHER AFTERTHOUGHT TRIPLET.

Archer L. White's experiment indicates that the solar gets less than a third of the wax from old comb, in fact less than a third of what can be got by a better process. Page 159.

Two chestnuts sometimes better than one. When you trot out that aged honeymoon-honeycomb conundrum tell 'em also that the man who isn't sold for once in his life is sold for his whole life. Page 153.

'Spects the Vermonters mist it a little on the comb-building question. Presumably the fresh nectar from the fields is at least a *little* better for comb-building than it can ever be again after it is sealed once. Page 153.

THREE QUEENS NEAR EACH OTHER.

That three young queens should remain near each other some time without coming to a fight I do not consider so *very* strange. Perhaps they were cold. And I guess B. Ginner's quart of bees (or the remnant of them) did not consider themselves a colony at all—only as individuals, there because they knew not what else to do with themselves—and so paid no attention to the queens whatever. Page 156.

CLIPPING SLIGHTLY FOR NEAR-BY MATING.

I had supposed that clipping a young queen's wing *slightly*, to prevent her flying away so far to mate, was to some extent practical. Mr. J. M. Rankin's experience of 64 failures out of 65 is rather in the nature of an extinguisher on that way of controlling mating. Page 165.

SCORING THE SCORE CARD.

The score card on page 166 affords abundance to think of and talk about. I'd Carrie Nation the "honey-wine" the first thing. 'Spects there is no such thing. All wines from fruit-juices. Name "honey-wine" would be used to cover vile inventions a grade below hard cider, and on a par with the barbarous drinks of the Philippines. They call their pizen-juice wine (vino.) If we must get drunk let's get drunk on something orthodox.

There seems to be an oversight in giving the single-case display the same pointing as the general display. We read, "Variety 5." This is all right for the general display; but it is not at all desirable that a twelve-section case should contain twelve kinds of honey. Let "Variety" in that place be changed for "Uniformity," unless something more important is thought of.

I suppose "Purity" in the beeswax class means freedom from dirt. Any impurity of the adulteration sort ought to disqualify altogether. Might not a less ambiguous word than purity be found?

I doubt the propriety of putting in the style of observatory hive as a minor item toward a premium on a colony of bees. Let any style that shows the interior well suffice; and then let observatory hives have a premium all to themselves, if desirable.

"Quietness of bees" is a point so important that we dislike to discard it; yet at a fair, it is a very tough thing to judge with any sort of justice. One lot will be tolerably quiet, and another lot running wildly, from causes not much connected with the normal manners of the bees at home in the apiary.

Personally, I should prefer to vice-versa the figures in "Quality 25, Attractiveness 50;" but perhaps the brethren will like it as well just as it is.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Swarming Management.

I have two colonies of bees that are very strong at this time, but I would like to increase only to three colonies the coming season. As I know that both will swarm, and that early, what do you think of this way of handling them? Say if No. 1 swarms, hive the swarm, then remove No. 2 to a new stand and set the swarm on the old stand of No. 2. I think if this is done in the middle of the day, when a great many field-bees of No. 2 are out, they will return to the old place and enter and help the new swarm by this, and will reduce the colony of No. 2, and will this not prevent the swarming of No. 2? PENN.

ANSWER—It may prevent the swarming of No. 2, but not certainly. It will certainly make the swarming of No. 2 later, if it does not prevent it.

Italianizing—Other Questions.

1. Would it be profitable to Italianize, where there are black bees within half a mile of my apiary?

2. Would you advise the use of full sheets of foundation?

3. Is light-brood foundation as good as the medium to use on wired frames?

4. Is the Simplicity hive as good as the dovetailed, in the production of comb honey?

5. Would you advise larger than an eight-frame hive for comb honey?

6. Would you advise the use of an observatory hive?

I have one which I made this winter, but I did not know whether it would pay me to buy the glass for it.

IOWA.

ANSWERS.—1, Yes, even if they were only an eighth of a mile away. Even if you have nothing but hybrids it will be profitable.

2. Yes.

3. Yes, if the wiring is close enough. Try it a little carefully at first if you are not sure about it.

4. You would be likely to find no difference in the amount of honey, but the Simplicity is hardly so simple as the dovetailed. If you try the two side by side you will be likely to prefer the dovetailed.

5. For some the 8-frame may be best, and for some the larger. The 8-frame requires closer attention, and even with good attention you will be likely to have some colonies starve in them every winter.

6. There is no particular profit in an observatory hive, but it is a pleasant thing to be able to see the bees at work in one.

Seems to be Paralysis.

I mail you a box containing some dead bees. I have three colonies that are dying off very fast from some cause, and I think you can tell me what is the trouble. You will see some are shiny and black. One colony is dying, and is all shades and colors. They are mismated queens, bees that seem the worst. The honey they wintered on wasn't the best, but I have five or six other colonies that seem all right. Would I better destroy the diseased colonies, or will they be all right when warm weather sets in? Do you think it is *paralysis?*

The bees of the colony from which I send you specimens do something like this: They will catch or bite all around certain ones of their number, and finally the one that receives such treatment will roll off the entrance-board on the ground, kick around and die; and at evening they will crowd upon the end of the hive and expire, from 15 to 25 and sometimes more a day. It doesn't seem to make any difference whether the days are warm or cold, and they will lift the wing and try to fly, but can't do it. On mashing them there is a thick yellow substance that mashes out of the body. The ones that are well are carrying in pollen.

KANSAS.

ANSWER.—It seems to be a case of paralysis. Altho many cures have been offered, unfortunately nothing seems reliable. Fortunately it is not contagious, and it is quite possible that it will disappear of itself. The most you can do is to take good care of your bees, seeing that they are well furnisht with stores and not allowed to become weak without uniting, and then hope for the best.

Wants to Start Again With Bees.

My bees all died with the cold last winter. I have a patent hive and the frames of comb in it are all right. If I had a queen would she live and hatch in it? How many bees would she need?

ONTARIO.

ANSWER.—A queen alone would be of no value, as she would hardly live 24 hours. With bees enough to cover two combs, she should make a pretty fair start. You will find queens advertised in this journal.

Moving and Feeding Bees.

I bought an apiary, or a wreck of one, and wish to move it one mile. In that yard I find other empty hives not in use, and they are full of moths. Several colonies flew lively this week, two of which were robbed and killed, and at other hives the bees groupt in heaps around the entrance. Others died of starvation and I think the balance are short in stores. They are packt, and I can not examine them at the present place, nor can I get to them to feed in the hives, neither can I use entrance-feeders.

1. Will I have to build them up before I can move them?

2. Is it safe to move them in their present condition?

3. Are they likely to consume what little honey they have during the excitement caused by moving?

4. How would you like this way of feeding? I would feed them in or near the yard, by taking a large wooden tray and laying gunny sacks in them. Over this I would pour enough feed so that they can sip all day. The next day I would do the same, but add more water, the next day still more water, and so on until it will all be water.

ILLINOIS.

ANSWERS.—1. The only trouble is that moving will excite them so as to make them consume more stores, in which case the moving would be the worse for a colony on the point of starvation; but if a colony is alive at all it will probably last long enough to be fed after moving.

2. I don't see why it is not, if the weather is at all favorable. In freezing weather a very weak colony might be so demoralized by moving as to hasten its death.

3. That has already been hinted at, but even if they do take it all into their honey-sacs it will last them for a time longer.

4. The plan will work very well if the weather is warm enough for bees to fly, and we ought to have that kind of weather now. But don't bring them down to pure water too rapidly.

Overboiling Sugar Candy for Winter Feeding.

On page 201 "Iowa" gives his experience with cakes of candy made of granulated sugar as winter feed for bees. My experience with candy as a winter feed is similar to his. Only a short time ago I examined some colonies with candy above the cluster; one colony was so nearly destitute of honey that none could be seen, and the bees had begun to die, and yet there was a large cake of candy on the frames, but the bees had not toucht it. I melted the candy and gave it to the bees in liquid form. Had the weather been too cold for the bees to take it in this form I should have poured some quite warm water all over the cake of candy. Warm water will penetrate and soften the hardest candy very readily, and so makes it available for the use of the bees.

SUBSCRIBER.

ANSWER.—This suggests that such cases may not be so rare as I had supposed. Here is something that may throw a little light on the case. In the British Bee Journal I find the following: "The sample of candy sent is quite useless as bee-food, being hard as a stone. It has been overboiled, and may be truly described as a "hard-cake." May not overboiling be the solution of the problem?

Candied Honey in Brood-Combs—Spraying While in Bloom.

1. I have about 500 brood-frames full of combs and honey, that are in good shape, smooth and square. There is 1,000 or 1,200 pounds of honey in them. The trouble is they are three and four years old, and the honey candied. Will they do to use this season? If not, what is the best way to dispose of them? They are all built on comb foundation.

2. Would you advise keeping bees in an orchard? It is about two-thirds grown. They do not get the sun much until about nine o'clock in the morning. They have plenty the rest of the time. I could give them the morning sun, but it would bring them within about five rods of the road. Would I be likely to have trouble?

3. I am in an apple section, and some orchardists are bound to spray when the trees are in full bloom. They did so last year within ten rods of my apiary. I talkt with them, and they said they could spray when they liked, and that I could keep my bees at home. I brought the question of spraying before the farmers' institute, and proved to them that they injured their fruit, and that they laid themselves liable; but they have been told that before. I am a farmer myself, but at present I am in the bee-business.

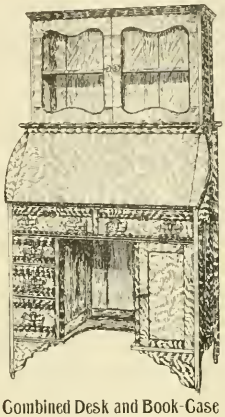
NEW YORK.

ANSWERS.—1. Sprinkle them with water and give them to the bees. If necessary, repeat the sprinkling.

2. It is not likely the shade will do any harm.

3. Send a dollar to the editor of this paper or to the general manager of the National Bee-Keepers' Association, so as to become a member of the Association, and the manager will furnish you literature with which you can instruct your neighbor, and give you any assistance needed. Of course you may get along without joining the Association, but you'll get along better with it, and be helping others as well as yourself.

DESKS FOR GENTLEMEN AND LADIES!



Combined Desk and Book-Case
Size, 66-in. high, 36 in. wide, 19 in. deep.
Price, $13.75.

THESE DESKS are made of quarter-sawed oak, first-class finish, well put together, and will please every purchaser. They are an ornament to any home, as well as being a useful necessity. Would make a FINE GIFT for father, mother or sister.

The Combination Desk and Book-Case

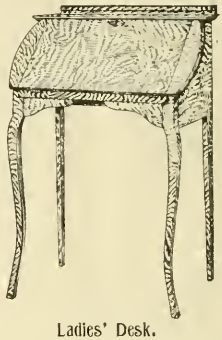
is just the thing for a farmer or business man of any kind, to keep his private papers in, and for his books, etc. The drawers have locks, and there are a number of pigeon-holes inside each of the desks shown herewith.

The low prices quoted are f.o.b. Chicago. Send for free catalog. Address,

The Royal Star Combination Game-Board Co.,
773 to 779 Carroll Ave., CHICAGO, ILL.

[The above firm is entirely reliable.—EDITOR.]

☞ Please mention the Bee Journal



Ladies' Desk.
Size, 40 in. high, 25 in. wide, 15½ in. deep.
Price, $2.85.

FOR SALE

100 COLONIES OF BLACK AND ITALIAN BEES on 8 Hoffman self spacing frames, all in dovetailed hives, full worker brood combs, and two supers with each hive—$2.00 per colony for the lot, or 25 colonies for $2.50 per colony. Address,
16Alt F. GENT, Rockford, Minnesota.

Wanted By a woman, position as assistant in an apiary; one in Northern Illinois preferred.
16Alt ANNIE C. McNEAL, CRETE, ILL.

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6 W. Broad St., Columbus, O.

GENERAL ITEMS

Wintered Without Loss.

My bees have wintered on the summer stands without any loss, but I am feeding now. I have 12 colonies in 15-frame hives, but I take out three frames from each side of the hives when I pack the bees for winter.

Hall Co., Nebr., March 23. FRED ROBY.

June-Berry—Blacks Ahead.

Kindly inform me what this flower is I send you. It grows on our hills on small trees, and looks like dogwood trees. It is in bloom with peach-blossom and elm. I do not know whether bees work on it or not, as I never noticed the bloom before to-day, when I was up in the mountains. I think it is basswood. It is very fragrant.

I have not been in the bee-business long. I have about 50 colonies, and know but little about honey-producing flowers and plants.

The weather has been so open and mild here that my bees have eaten up nearly all their winter stores, and I find my Italians have consumed a great deal more than the blacks. I had only 11 colonies of Italians, from queens I introduced last year. They went into winter (as I thought) with abundance of honey, but last month when I examined them I found two starved to death, and almost every Italian colony very short of honey, and I fear I am too late in feeding to do them any good.

With my short experience I find the blacks away ahead of the Italians. I had one new swarm of blacks that stored 252 pounds of comb honey, besides enough to winter on.

R. N. CRAFTON.

Indian Territory, March 27.

[The botanist of the American Bee Journal reports as follows on the flower specimen sent by Mr. Crafton:—EDITOR.]

The specimen you send for identification is the June-berry—Amelanchier canadensis—and belongs to the pear family. The June-berry is a small tree or shrub, and sends out its

To make cows pay, use Sharples Cream Separators. Book "Business Dairying", & Cat. 212 free. W. Chester, Pa.

MANUFACTURER OF

BEE-HIVES

Sections, Shipping-Cases—Everything used by bee-keepers. Orders filled promptly. We have the best shipping facilities in the world. You will save money by sending for our Price-List. Address, **Minn. Bee-Keepers' Supply Mfg. Co.,**
Nicollet Island Power Bldg.,
16Atf MINNEAPOLIS, MINN.

THE WHEEL OF TIME
for all time is the
Metal Wheel.

We make them in all sizes and varieties, **TO FIT ANY AXLE.** Any height, any width of tire desired. Your wheels are either direct or staggered spoke. Can **FIT YOUR WAGON** perfectly without change.

NO BREAKING DOWN.

No drying out. No resetting tires. **Cheap because they endure.** Send for catalogue and prices. Free upon request.

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Box 16 Quincy, Ills.

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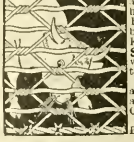
For Sale 10 COLONIES OF BEES in eight-frame dovetailed hives, at $3.25 per colony. My bees are healthy, there never having been any disease among them. **CHAS. SECKMAN,**
Shipping-point, LINCOLN. **Saltillo, Nebr.**
16A2t Please mention the Bee Journal.



BULL-STRONG!

....PIG-TIGHT....

An Illinois farmer said that after harvest he had fully 200 bushels of loose oats on the ground that he could not secure any benefit from, because the fence around the field would not turn hogs. Figure the loss for yourself. He also said, all this would have been saved if he had used the Kitselman Woven Wire **Coiled Spring Fence,** and the value would have gone a long ways towards paying cost of the fence. With the **Duplex Machine** any farmer can make it himself at the actual cost of the wire. Catalogue free for the asking.

KITSELMAN BROS.
Box 201, **Muncie, Ind.**

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white, showy blossoms before the leaves appear, thus making itself very conspicuous even from quite a distance. The blossoms appear in April or May, depending upon the season and latitude, and the purplish, edible berries, in June. It is an indifferent honey-producing flower.—C. L. WALTON.

Wintered on the Summer Stands.

Last year was a poor year for honey in this locality, but my 41 colonies came thru the winter all right, on the summer stands.

We have an abundance of white clover, but there are very few bees kept here.

I can not do without the American Bee Journal, as I have learned from it all that I know about bees. ALONZO GRANT.

Clark Co., Wash., March 18.

Report from a Young Bee-Keeper.

Our bees have wintered well and are in good condition for spring work. My father used to think that he had the best of bees, but he has found that they can be improved upon. He bought three queens from a prominent queen-breeder, and all proved to be very good ones, tho one of them was especially so, and he selected that one from which to rear queens. She reared over 70 queens, and only one of them was poor.

We secured a very poor honey-crop last season, but we are watching and hoping for a good crop this season.

EMMA BANKER (age 14).

Brown Co., Minn., March 24.

Better Prices for Honey.

Will some one please tell me, as well as the rest of the readers of the Bee Journal, how we can bring about a speedy combination of the bee-keepers so as to get a better price for our honey here in California, where honey is produced by the car-load—yes, even by the train-load? The population is not so great as in the East, where from 2 to 100 colonies of bees are kept, and where honey enough to supply the demand can not be secured. We are at the mercy of the jobbers, who are not disposed to "live and let live," but want all.

If joining the National Bee-Keepers' Association will help to rectify matters, I would like to know it; and, if so, I will do all in my power to promote the good of the National or any other association that will help us ont.

Would it not be well for the National Association to have a set of by-laws printed and sent to all bee-keepers, and advocate combination? We see, and hear of, combinations formed every day with immense capital, and they succeed, so why couldn't we? If every bee-keeper would contribute $2.50 it is hard to estimate what the amount of capital would

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to

Prof. A. J. Cook, Claremont, Cal.,

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Grove City Rabbitry!

Prince Leopold, Ivanhoe, Donovan Boy, and other high-bred Belgian stock.

Youngsters, 3 months, $3.00, or 2 for $5.00. For pedigree, write

WM. M. WHITNEY, Kankakee Ill.

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BEES WANTED!

50 TO 75 COLONIES.

If you have any for sale write to H. G. QUIRIN, PARKERTOWN, OHIO. 13A4t

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—Out of your poultry we mean. If not there is something wrong. May be you didn't start right. We have published a book called the

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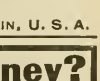
which helps to start poultry people right and then keeps them right. Tells all about the business and about the best—THE RELIABLE INCUBATORS AND BROODERS. They are used all over the world. The book will be sent on receipt of 10 cents as long as the supply holds out. Better order at once.



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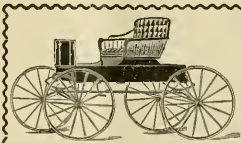
THE A. I. ROOT COMPANY have a Branch Store at 10 Vine St., PHILADELPHIA, PA.,

Where they have direct steamboat connections with Massachusetts, Rhode Island, Connecticut, New Jersey, Delaware, North Carolina, South Carolina, Georgia and Florida, and low freight rates.

As this is a main branch, order from any catalog or quotations given from Medina.

Also booking orders for healthy ITALIAN BEES, shipt this month. Full colonies, 8 frames and queen, $6.00. Wholesale rates on application.



No. 232—Driving Wagon. Has "Long Distance" axles, open head springs, Bailey loops, rubber covered steps and solid rubber tire. Fri e with shafts, $65. Same as others sell for $40 to $50 more than our price.

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in many cases when you buy vehicles and harness from the agent or dealer. We do without these people and reduce the price of our goods to you to the extent of their commissions. We make 178 styles of vehicles and 65 styles of harness and sell them to the consumer direct from our factory at wholesale prices.

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You pay a profit to nobody except our manufacturing profit, and you get the best goods which a given amount of money will buy. In a factory of the size of ours you get the best possible selection. Our large illustrated Catalogue contains cuts of everything we make. Remember that we ship our vehicles and harness anywhere for examination and guarantee safe delivery and warrant everything.

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The Bantom hatches every hatchable egg. 50egg size, $5. Send for Cat. No. 63

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Wanted! A trustworthy boy or young man to assist in apiary work, to learn practical bee-keeping, and earn good wages. 100 colonies of bees for sale. C. THEILMANN, Theilmanton, Wahasha Co., Minn.

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Tennessee Queens!

Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3½ miles apart, and mated to select drones, $1.50 each; untested warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and but few within 5 miles. 28 years' experience. Discount on large orders. Contracts with dealers a specialty. JOHN M. DAVIS,

6A26t Spring Hill, Tenn.

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POULTRY BOOK FREE, 64 pages, illustrated with 3 mos. trial subscription to our paper, 10c INLAND POULTRY JOURNAL, Indianapolis, Ind

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Marshfield Manufacturing Company.

Our Specialty is making SECTIONS, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

8A26t **Marshfield Manufacturing Co., Marshfield, Wis.**

QUEENS!

Improved Golden and Leather-colored Italians are what **H. G. QUIRIN** rears.

We have one of Root's best long-tongued **Red-Clover Breeders** from their $200 queen, and a Golden Breeder from Doolittle, who says if there is a **BREEDER** of golden bees in the U.S. worth $100, this one is worth that sum. The above breeders have been added to our already improved strain of queens for the coming season.

J. L. Gandy, of Humboldt, Nebr., wrote us on Aug. 5th, 1900, saying that the colony having one of our queens had already stored over 400 pounds of honey (mostly comb); he states that he is certain that our bees work on **Red Clover**, as they were the only kind in his locality and apiary.

A. I. Root's folks say that our queens are extra fine, while the editor of the American Bee Journal tells us that he has good reports from our queens from time to time. We have files upon files of unsolicited testimonials.

After considering the above evidence, need you wonder why our orders have increast each year? Give us a trial order and be pleased. We have years of experience in mailing and rearing queens. Safe delivery will be guaranteed, and instructions for introducing sent with each lot of queens.

QUEENS NOW READY TO MAIL.

Warranted stock, $1.00 each; six for	$ 5.00
Tested queens, $1.50 each; six for	8.00
Selected tested, $2.00 each; six for	10.00

We have **100,000 Folding Cartons** on hand, and so long as they last we will sell at $4.00 per 1,000, with your address printed on in two colors; 500, for $2.75. At above price you can not afford to place comb honey on the market without cartoning it. Address all orders to

H. G. QUIRIN, Parkertown, Ohio.

(Parkertown is a Money-Order Office.)

By contract this ad. will appear twice per month only. 14E13t

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To sell you BEE-SUPPLIES!

Our line is all new and complete. Send for our Illustrated Catalog; it will convince you that our Dovetail Hive is the best on the market. Our prices are right, and our service is prompt.

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Do You Want a

High Grade of Italian Queens

Or a CHOICE STRAWBERRY?

CHICAGO, ILL., Jan. 28, 1901.

D. J. BLOCHER, ESQ., Pearl City, Ill.

Dear Sir:—Your quotations on 48 untested Italian Queens, ready for delivery by May 18, 1901, at hand. It being the first offer out of several inquiries, and, besides, you having promptly favored me with queens last year, you may, in appreciation thereof, have the order.

Yours truly, L. KREUTZINGER.

Prices for May and June:

Number of Queens	1	6	12
GOLDEN QUEENS.			
Untested	$1.00	$ 5.00	$ 9.00
Tested	1.25	7.00	11.00
Select Tested	2.00	10.00	17.00
Breeders	5.00		
HONEY QUEENS.			
Untested	$1.00	$5.00	$ 9.00
Tested	1.25	7.00	11.00
Select Tested	1.50	8.00	13.00

Safe arrival guaranteed. Descriptive price-list free.

D. J. BLOCHER, Pearl City, Ill.

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Bee-Keepers' Supplies.

Just received a consignment of the finest up-o-date **HIVES** and **SECTIONS** we've had. They are 2d to none. Complete line of **Bee-Keepers' Supplies** on hand. Bees and Queens. Catalog free.

THE A. I. ROOT CO.,

H. G. ACKLIN, Manager,

1024 Miss. Street, St. Paul, Minn.

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Drones of Ye Olden Time.

The practice of cutting out drone-comb is no new thing. Plato, who was born some 400 years before the Christian Era, in his "Republic," represents Socrates as saying:

"Now the presence of these two classes of idle and extravagant men which we may compare to drones—like phlegm and bile in the body—breed in every commonwealth disturbance. Therefore, a skillful physician and legislator, just like a cunning bee-keeper, must take measures in advance, if possible, to prevent their presence, but should they make their appearance, he must have them cut out, as quickly as possible, along with the combs themselves."

This passage is interesting because it serves to show that the Greek bee-keepers of Plato's day must have had some sort of a hive which enabled them to handle the combs. It also indicates that they knew a thing or two about keeping bees. Mr. Dadant, in his articles impressing the importance of cutting out drone-comb, has the satisfaction of knowing that he is in line with ancient example and precept.

The winter has been favorable here for bees. All colonies, so far as heard from, have come thru in good shape. I have wintered my bees on the summer stands for four years now, and have yet to lose my first colony. I fill the supers with planer-shavings, and protect on the north and west. FRANK PARKS.

Lancaster Co., Nebr., March 25.

Better Prospects Than for Years.

Bees in this valley were rather backward at the beginning of the year, but now they are breeding up very fast, and the prospects for a honey crop are better than they have been for years. WM. ROSS.

San Bernardino Co., Calif., March 19.

Bees Wintered Nicely.

My bees wintered well, and I think all bees did in Ashley Valley. I lost only 6 colonies out of 80; there are 6 that are short of winter stores, and I am feeding them. Bees are gathering pollen and the prospects for a good season are fine. There is lots of snow on the mountains. BENJAMIN A. VAN DUINE.

Uintah Co., Utah, March 23.

Flowers and Fruit-Trees Blooming in Florida.

In Florida it is not the "Hum of the Bees in the Apple-Tree Bloom," but the hum of the bees in the yellow jasmine bloom. It is a very pretty vine, and I have seen the tops of young pines bending with the weight of its golden bloom. Lately I saw a beautiful vine clinging to the cornice of a two-story house, and winding around its cupola, shedding its fragrance on the southern air.

The titi is now in bloom, and its long, white racemes of tiny flowers are also very fragrant, and yield a nice white honey. Peach and plum-trees are also beginning to bloom—the plum-trees are very white, and the peach-trees are a deep pink. When the weather is favorable they are alive with busy workers. Many pear-trees in this vicinity have died of blight—they are of the Le Conte variety—the Reifers are not injured by it. The clusters of bloom on good pear-trees resemble those on the hydrangea. I have counted 45 blossoms in one cluster. Bees gathered much pollen from pines and cedars.

The past winter has been cool, yet there has been no severe freezing. The tender growth of orange-trees was nipt by frost on March 6th, but now the little white buds show prettily among the shiny green leaves.

I saw a bee-keeper to-day who said that his bees were not doing much, as there had been too many cold winds. He had swarms last year on Feb. 20th, but he thinks it will be a be, but I suppose at least $1,000,000. That would make a neat little "combine."

Our prospects are very fair for a partial crop of honey this year. C. E. STEVENS.

San Diego Co., Calif., March 25.

Belgian Hares

CHEAP.

PEDIGREED AND COMMON STOCK.

Having bought a Job Lot of a neighbor and added to what I had, I must dispose of same to make room for my increase. They are mostly young—3 months and over—with a few bred Does. ALSO

Italian Queens

of last season's rearing, ready as soon as the weather is warm enough to send thru the mail. Write for prices. Address,

J. L. STRONG,

11Atf **Clarinda, Page Co., Iowa.**

Lone Star

QUEENS.

Breeder of FINE

ITALIAN QUEENS

G. F. Davidson & Sons,

Establisht 1885. FAIRVIEW, Wilson Co., TEX.

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We are distributors for ROOT'S GOODS AT THEIR PRICES for southern Ohio, Indiana, Illinois, West Virginia, Kentucky, and the South.

MUTH'S SQUARE GLASS HONEY-JARS. LANGSTROTH BEE-HIVES, ETC.

Lowest Freight Rates in the country. Send for Catalog.

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FREE FOR A MONTH....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.

Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

Please mention Bee Journal when writing.

ALBINO QUEENS If you want the most prolific Queens—if you want the gentlest Bees—If you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.

11A26t **J. D. GIVENS, LISBON, TEX.**

Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application. BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

Please mention Bee Journal when writing.

BEE HIVES, SECTIONS AND ALL BEE-KEEPERS' SUPPLIES.

Big Catalog Free. Write now. Leahy Mfg. Co., 2415 Alta Sita, E. St. Louis, Ill.

6Atf Mention the American Bee Journal.

long time before he has any this season. His apiary is small, but apparently well kept, the bees being in movable-frame hives.

MRS. L. HARRISON.

Washington Co., Fla., March 23.

Good Report from Colorado.

Seven years ago I started in the bee-business with 2 colonies, which I bought for $10. Last spring I had 50 colonies, and was offered $4 per colony for them, but I refused it.

My honey crop last year was 2,400 pounds of extracted honey and 2,200 pounds of comb. I sold the extracted honey at 7½ cents per pound, or $180, and the comb honey for 11¼ cents per pound, or $247.50, making a total of $427.50.

My increase last season was 30 colonies, but I lost 2 of these during the winter, so now only 78 now. The lowest average of honey secured, spring count, has been 40 pounds per colony, and the highest 90 pounds per colony, the latter being the average stored last season.

A. WADDINGTON.

Otero Co., Colo., March 27.

Report from Minnesota.

Our bees have wintered well, with a loss of only one colony out of 124. Last year we got no honey and had to feed our bees, but we hope for better things the coming season.

My father is going to give me a colony this year, and I hope they will store plenty of honey so that I will not have to feed them. We use the Langstroth hives.

We wintered some of our bees outdoors packt in wheat chaff in boxes two inches larger on the sides than the hives, and 4 inches higher, and raised the backs of the hives a little so that the moisture can run out. We have 20 colonies in the cellar which seem to be all right, but when we take them out they may be all wrong.

FRED BANKER (age 12).

Brown Co., Minn., March 24.

Poor Prospects for the Coming Season.

I put 11 colonies into the cellar, and I think there are a great many of the bees dead.

I am very much interested in the American Bee Journal, but I think it is about all we will have to comfort us this summer in the bee line. If the spring is late there won't be a colony left in the county. F. DURANT.

Winnebago Co., Wis., March 25.

Bees Wintered in Good Condition.

My 38 colonies of bees seem to be in good condition, and if we have warm weather for a week or two we can take them out of the cellar.

We had a good horse killed by lightning on March 23d, but notwithstanding our bad luck we feel that we must have the American Bee Journal in order to carry on bee-keeping successfully. WM. HARTWIG.

St. Croix Co., Wis., March 25.

Bees Short of Winter Stores.

The roads here are in very bad condition, and have been so for six weeks; the mud is a foot deep, and there is snow on top of that.

In February I lookt at some of my bees, and I am afraid that many will be short of stores. Maple is in full bloom, but no bees are working.

There has been no comb honey in our market for a month. I keep the extracted on hand. Foul brood has cut my number down to 40 colonies. JOHN C. STEWART.

Nodaway Co., Mo., March 28.

CONVENTION NOTICE.

Illinois.—The spring meeting of the eastern division of the Northern Illinois Bee-Keepers' Association will be held at the residence of B. Kennedy, 7 miles southeast of Rockford, Ill., on Rural Route No. 5, and 3 miles northeast of New Milford, Ill., Tuesday, May 21, 1901. All interested in bees are cordially invited to attend.

B. KENNEDY, Sec.

LEARN TO SING

AT HOME by my thorough method of training. With my complete course I guarantee to train and cultivate your voice or refund your money. The best musical knowledge arranged especially for Home Study. Has Highest Endorsement. Beautiful descriptive booklet sent free. Address Prof. G. M. Whaley, Kalamazoo, Mich

Please mention Bee Journal when writing.

Bees Wanted 10 or 15 colonies of Italian BEES on LANGSTROTH FRAMES. Address, Box 151. H. RASMUSSEN, Oak Park, Ill.

15A2t Mention the American Bee Journal.

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Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.

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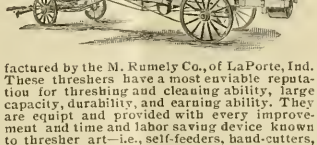
BEES QUEENS Smokers, Sections, Comb Foundation And all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.

Please mention Bee Journal when writing

The Farm and the Thresher.—The man who owns and operates a threshing outfit is not the only one who should study and look into the merits of threshing machines. If there is any one man above another who should be interested in the capabilities and the quality of work a threshing machine will do, that man is the farmer. If a machine is only limited in capacity and is pusht beyond its limit the grain will be "hogged," or poorly thresht and cleaned, and the farmer is the loser. If the machine be flimsily constructed, or if the engine is of too light capacity, breaks and delays will occur, and with a big gang of threshers on his hands the farmer is again the loser. Certainly, then, when you have a job of threshing to do the safe plan is to select or employ a machine of such well-known make and ability as to avoid all these vexatious delays and losses. As a type of this best class of threshers we illustrate herewith the new Rumely thresher which is manu-



factured by the M. Rumely Co., of LaPorte, Ind. These threshers have a most enviable reputation for threshing and cleaning ability, large capacity, durability, and earning ability. They are equipt and provided with every improvement and time and labor saving device known to thresher art—i.e., self-feeders, band-cutters, grain-weighers, grain-baggers, high elevators, elevators with cross-conveyors, etc. The Rumely engines which are made for burning with wood and coal or both, straw, etc., are phenomenal for their strength and durability, and further on the fact that they always develop greater than their accredited power. They are remarkably easy and quick steamers, and are economical of fuel. Their traction power is simply enormous, and they take the entire outfit anywhere over any kind of road. The separators can be equipt with Uncle Tom Wind-Stacker, or the Sattley Attach't Stacker, or the Independent Swinging Stacker, as desired by the buyer. All machines of every kind and all attachments are made of the very best material and in the most workmanlike manner. If interested in threshing machinery in any way it will pay you to see a Rumely catalog. Write the M. Rumely Co., LaPorte, Ind., to-day, and they will take pleasure in mailing you one free. But please don't forget to say you saw their advertisement in the American Bee Journal.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Apr. 8.—Choice grades of white comb honey continue to sell at 16c per pound, and there is no surplus in sight. Other grades of comb sell fairly well at the following prices: No. 1 grades of white, 14@15c; off grades, 13c; light amber, 12c; dark amber, 10@11c; buckwheat and other dark combs, 9@10c; candied and mixt colors, 7@9c. Extracted is dull, and prices very weak, with the exception of some fancy linden and clover grades quotable at 7@8c; ambers, 6½@7½c; dark and buckwheat, 5@6c. Beeswax, 30c. R. A. BURNETT & Co.

NEW YORK, March 19.—Our market is virtually bare of comb honey, and there is a fair demand for all grades. Fancy white is still selling readily at from 15@16c; No. 1 white at from 13@14c; amber at from 12@13c; buckwheat, 10@11c, according to quality and style of package.

As to extracted, the market is quiet and inactive, and a certain amount will have to be carried over again. Prices are declining somewhat, and if the honey is not moved in large lots, concessions will have to be made. We quote: California white, 7@7½c; light amber, 6½@7c; other grades and Southern, 65@75c per gallon. Beeswax very firm at 28@28½c, and for exceptionally fine yellow, 29c.

HILDRETH & SEGELKEN.

BUFFALO, Apr. 4.—Fancy comb, 14@15c; dark, etc., 8@12c, as to grade. Demand moderate. Fancy beeswax, 27@28c. BATTERSON & Co.

OMAHA, Mar. 30.—Demand fair; stocks light. Fancy white comb, 15@16c. Extracted moving slowly at 7@8c for white. We do not look for any particular change for the balance of the season, as present supply will just about be sufficient to supply the trade until new crop gets into market. PEYCKE BROS.

DETROIT, Apr. 11—Fancy white comb, 14@15c; No. 1, 13@14c; dark and amber, 10@12c. Extracted, white, 6½@7c; amber and dark, 5@6c. Beeswax, 27@28c.

Sales slow and stocks light, maple syrup taking the attention. M. H. HUNT & SON.

CINCINNATI, Apr. 8.—The demand for comb honey is nearly over. The stock of it also well cleaned up. Fancy white brings yet 16c. Extracted is in fair demand; dark sells for 5½c; better grades bring 6@7½c; fancy white clover from 8½@9c. C. H. W. WEBER.

KANSAS CITY, Mar. 23.—Receipts light; demand normal at steady prices. Fancy white comb, 15@16c; no amber on market. Extracted, 8@9c. Beeswax scarce, steady demand, 25@30c.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

ALBANY, N. Y., Apr. 6.—Honey market quiet. Light supply and light demand now. The stock is well cleaned out, so will be no old honey to carry over this season. H. R. WRIGHT.

BOSTON, April 4.—Fancy No. 1 white in cartons, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. Absolutely no call for dark honey this year. Extracted, white, 8@8½c; light amber, 7½@8c. Beeswax, 27c.

BLAKE, SCOTT & LEE.

SAN FRANCISCO, Feb. 6.—White comb 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber 6¾@7¼c; amber, 5½@6½c. Beeswax, 26@28c.

Considering the light output of honey last spring from California apiaries, present offerings are of tolerably liberal volume and are mostly of amber grades. The market is slow at the quotations. It is reported on good authority that adulterated and imitation honey is being dealt out in considerable quantity, which accounts in a great measure for the very limited business doing in the pure article.

1901—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog. M. H. HUNT & SON, Bell Branch, Wayne Co., Mich.

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25 to 50 colonies of bees in good condition. Must be cheap.

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11A6t RIVER FOREST, COOK CO., ILL.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

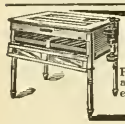
	5lb	10lb	25lb	50lb
Sweet Clover (white)	70c	$1.20	$2.75	$5.00
Sweet Clover (yellow)	$1.50	2.80	6.25	12.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	90c	1.70	3.75	7.00
White Clover	90c	1.70	4.00	7.50
Alfalfa Clover	80c	1.40	3.25	6.00
Japanese Buckwheat	30c	.50	1.00	1.60

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.



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GEO. H. STAHL, Quincy, Ill.

46A25t Please mention the Bee Journa.

I ARISE

To say to the readers of the BEE JOURNAL that

DOOLITTLE...

has concluded to sell QUEENS in their season during 1901, at the following prices:

1 Untested Queen	$1.00
3 Untested Queens	2.25
1 Tested Queen	1.25
3 Tested Queens	3.00
1 select tested queen	1.50
3 " " Queens	4.00
Select Tested Queen, last year's rearing	2.50
Extra selected breeding, the very best	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t Borodino, Onondaga Co., N. Y

24th Year Dadant's Foundation. 24th Year

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What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS, PATENT WEED-PROCESS SHEETING.

Why does it sell so well? ✲✲

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

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Very fine pure-bred **BARRED PLYMOUTH ROCK** Chickens and Eggs for sale **at very low prices.**

LANGSTROTH on the HONEY-BEE—Revised
The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

$15.00 and $25.00 Queens

Having a Measured Tongue Reach.

The call for queens of our celebrated $200 imported mother has been so great that we have decided, in addition to the $2.00, $4.00, and $6.00 grades of this stock, to offer some $10.00, $15.00, and even $25.00 of this same blood. But these prices are for tested queens, **the tongues of whose bees have been measured.**

The $10.00 queen is guaranteed to produce bees with a tongue-measurement of 19-100.

The $15.00 queen, 20-100.

The $25.00 queen, 21-100.

These last are very rare and with one exception this (21-100) is the longest tongue reach yet secured. We reserve the right, when we do not have the stock with the tongue reach called for, either to return the money or to send the next lower, remitting the balance. It would be well for our friends to put in their orders at once, and as soon as we get the grades we will send notice. When the money is sent, the queens will be forwarded. These will be put up in the very best manner possible; and while we guarantee safe arrival in good order to any point in the United States, on any railway line, we will not guarantee safe introduction. Such valuable queens should be release on hatching brood.

N. B.—It seems as if it ought not to be necessary to say that no one but a queen-breeder or a large honey-producer should order these high-priced queens; but it is a fact according to our experience that beginners with only a few colonies will order our highest priced imported queens. Such bee-keepers have no more use for such queens than a pig has for a wheel-barrow.

THE A. I. ROOT CO., Medina, Ohio.
(U. S. A.)

☞ **GEORGE W. YORK & CO.** 144 & 146 Erie Street, CHICAGO, ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., APRIL 25, 1901.

FORTY-FIRST YEAR
No. 17.

WEEKLY

MR. GHENNADJ KANDRATIEFF,
Editor of the Russian bee-paper,
"Wiestnik Inostrannoi Literatury Ptchelovodstiva."
(See page 260.)

THE AMERICAN BEE JOURNAL

PUBLISHT WEEKLY BY

GEORGE W. YORK & CO.

144 & 146 Erie St., Chicago, Ill.

Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50c a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec01" on your label shows that it is paid to the end of December, 1901.

Subscription Receipts—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England: — Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows fromtwo to three feet in hight and bears large, clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us ONE NEW subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.

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The Emerson Binder.

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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144 & 146 Erie Street, CHICAGO, ILL.

Weekly Budget.

T. F. BINGHAM, of Clare Co., Mich., wrote us April 18th that the bees in his region had wintered fairly well, his own having been in the cellar just five months.

* * * *

DR. C. C. MILLER gave us a short call on Saturday, April 14th. He is looking and feeling much better than for some time past. He said, "I feel 15 years younger than I did three months ago." The good Doctor's many friends will join in the hope that he may continue to improve, and be spared many years to help make easier the paths of questioning bee-keepers, and if need be say, "I don't know."

* * * *

DR. A. B. MASON, writing us April 12th, had this to say about himself and his bees:

FRIEND YORK:—It is four weeks this morning since I had a fall and broke two of my ribs just below the left shoulder-blade; I also bruised my hip, and am still wearing "corsets." They do not allow me to lift as much as a pail of water yet, but I tell you I have a "bully" time doing nothing. I will be ready for business again in a few days.

Our bees are still in the cellar, and in splendid condition. It has been too cold to put them out, but early this morning, with the mercury at 32 degrees, it looked as if they might be put out to-day, but now at 7 o'clock a m. it is clouding up, and prospects are for a cool day. Yours very truly,

A. B. MASON.

We regret very much to learn of the Doctor's fall, but are not surprised that it should have resulted in broken bones, as he is "no small affair." When a "boy" of his size begins to drop, something has to give way when he strikes bottom. But all will hope for his speedy and complete recovery.

* * * *

FINED FOR CRUELTY TO A BOY is the heading of an item dated at Washington, April 13th, and found in the Chicago Record-Herald, which reads as follows:

Prof. Frank Benton, of the Agricultural Department, was fined $10 by Police Judge Scott yesterday for his inhuman treatment of Frederick Hahne, an 8-year-old.

For some time Prof. Benton, who is in charge of the apiary at the Department of Agriculture, has been annoyed by boys throwing sticks and stones at the bee-hives. On last Friday he made a raid on the boys and caught young Hahne. Taking him by one arm and one leg, the Professor carried and dragged the struggling, screaming child to the hives.

"I'll give you enough bees," said the Professor, as he held the boy in front of one of the hives. The angry bees settled on the boy, stinging him severely about the face and on the legs. As soon as he could get away the boy ran home, where he was treated by Dr. Nicholson, under whose care he still remains. John Hahne, the boy's father, procured a warrant for the arrest of Prof. Benton, charging him with assault.

The boy still shows the effects of the stings. His face is badly swollen. His father is very indignant at the light punishment inflicted by Judge Scott upon Prof. Benton. When Secretary Wilson was askt this afternoon what action he would take in the case of Prof. Benton, he said the matter had not been brought to his attention.

While we would not for a moment approve of Mr. Benton's severe treatment of the naughty small boy, still we must admit that it is very exasperating to a bee-keeper to have his colonies pelted with stones and various other missiles. We lost a good colony of bees the past winter by its hive having been upset by mischievous boys after we had it nicely prepared for winter. The combs, heavy with honey, were all broken from the top-bars, and likely drowned the bees. At any rate it was the only colony we lost in wintering, and we can not attribute it to anything else than the upsetting, as the other colonies came thru in good condition.

But wouldn't it have been better if Mr. Benton had carried his boy into the house, set before him some nice honey and biscuit, and then explained to him in a kindly manner the probable result of his annoying the bees? It would have been cheaper for Mr. Benton, and he perhaps might have made a staunch friend out of a careless boy instead of running the risk of having the boy stung to death for causing a little annoyance.

* * * *

WHAT NEXT IN THE TEMPERANCE REFORM?—The Board of Managers of the National Temperance Society and Publication House, believing that the times call for an active and aggressive campaign of the Christian and Temperance forces against the liquor traffic, at a meeting held on Thursday, Feb. 21, 1901, instructed the general secretary to send a circular letter containing the following series of questions to a number of representative temperance men and women, with the request for replies.

The Board believes that from the replies received it will be possible to mature plans for an aggressive campaign of the united moral and Christian forces, that will make the new century memorable in the entire overthrow of the liquor-traffic.

The replies will be collated and classified, and copies of the results sent to all papers printing this circular

QUESTIONS.

1. Now that the "Canteen" citadel has been taken, what in your judgment should be the next point of attack?
2. Is a union of the temperance forces of the United States at this time desirable and practicable?
3. If so, on what basis and along what lines in your opinion could such a union be effected?
4. Would you advise holding in the near future a conference (not a convention) of representative temperance men and women as a means to that end?
5. If so, what place in your judgment would be the best, and what time the most fitting?

Those of our readers who wish to answer these questions may send their replies to James R. Dunn, Nos. 3 and 5 West 18th St., New York, N. Y.

* * * *

THE SPORTS THAT MAKE THE MAN.—Sir Thomas Lipton, K. C. V. O., has written especially for the Saturday Evening Post, of May 11th, an article on this subject. He places yachting high on the list, and gives some interesting anecdotes of his own career as an amateur yachtsman. Sir Thomas is hopeful, if not confident, of "lifting" the America's Cup next autumn. He says, however, that if it were a certainty he would not cross the water; for there is no sporting interest in "sure things." This article will appear exclusively in the Saturday Evening Post, of Philadelphia, Pa. It is one of the very best weekly periodicals publisht to-day.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., APRIL 25, 1901. No. 17.

Editorial.

"The Man Who Reads is the man who succeeds," is the first sentence of an editorial paragraph in the Bee-Keepers' Review. To illustrate it, Mr. W. L. Coggshall, of New York State, is referred to. He employs quite a number of young men every season in his bee-keeping work with nearly 1,500 colonies, and he says that "the young man who did not read never amounted to much in his employ." It was a true statement, and will apply in practically every calling in life.

The man who would succeed certainly must read. He must inform himself concerning every detail of his business. He must find out the principles by which others have won success, and then adapt them to his own use.

No man liveth unto himself, 'tis said. And that is also a hard fact. We are all dependent one upon another. Each needs the other's help and encouragement, in order to do the best work. And by reading we gain not only helpful information, but a necessary enthusiasm. We thus learn how others have done successfully, and we feel that we can do as well if we make the effort.

Honey by the Pailful.—Mr. Thomas Slack, of Canada, tells in Gleanings in Bee-Culture, how he disposes of his crop of honey by the use of tin pails, selling direct to families. His price is $1.00 for eight pounds. He thinks that when a family buys a pailful of honey at a time they will not use it so sparingly as when getting only a single section or a small glass jar of it. That sounds reasonable. And he says he can sell more honey at eight pounds for $1.00 than at 10 cents a pound. No one would want to try to push the 10-cent price if the other is a success. He allows 10 cents for a returned pail.

Mr. Slack covers with his market wagon 21 miles in three directions each week in the summer. Liquid honey sells as ten to one for him as compared with candied.

"Keep More Bees" is the advice some of the leaders are giving "without charge" to those who have not made very much success at bee-keeping. The idea is that most bee-keepers have not been in the business in a sufficiently extensive way to make it pay. This may be true in many instances; in others, if the locality is not suitable for successful bee-keeping, it would simply be folly to "keep more bees."

As a sample of what at least one bee-keeper is expecting to do in the expansion business the coming season, we may say that he has already contracted to furnish 12,000 pounds of comb honey at 16 cents per pound. He is in the sweet clover district not a hundred miles from Chicago. We are not at liberty to mention his name, as we are not certain that he cares to have it publisht. However, what we have given will do no harm. He is buying bees "to beat the band," and expects to have about 250 colonies, and all in one yard. He will have an expert bee-keeper take full charge of the bees, while he attends to other business that requires his attention.

Last year, we believe, this same bee-keeper averaged 100 pounds of comb honey to the colony, and had over 50 colonies in the yard. We will be able to report next fall how it has paid him to "keep more bees" this year.

There is quite a good demand for bees this spring, at least in this locality, and if any of our readers have them for sale at right prices, they should do well by offering them thru the advertising columns of the American Bee Journal.

Spring Care of Bees.—Editor Hill gives this paragraph in the April American Bee-Keeper, which should be read, and its suggestions followed, by every one who desires to make bee-keeping a success:

At no time of the year does skillful treatment and care of the bees yield so great a reward as that bestowed during the spring months. Avoid handling unnecessarily at all times, and under no circumstances do so while the weather is cold. See that all colonies are provided with queens and with ample stores. Brood-rearing draws heavily upon the honey which they may have. Protect the hives in every possible way against the loss of heat. Upon the number of eggs laid by the queen up to the 37th day preceding the opening of the bloom from which the nectar is to be gathered, depends the bee-keeper's success. All laid thereafter are at a loss to the honey-producer. Give the queen the benefit of every advantage you are able to bestow, in order that she may meet the honey-flow with an ample force of workers.

Testing Barrels for Honey.—In all probability wooden barrels will be used for holding honey, for many years to come. Altho the tin can is fast becoming the more generally adopted package for shipping extracted honey, still there are localities and purposes which demand the barrel. So we say, every man to his liking or preference. Pres. N. E. France, of the Wisconsin State Bee-Keepers' Association, is perhaps one of the most extensive users of barrels for holding honey. He is a very candid man, and can not be induced to use a can for honey. But he knows how to test a barrel before putting honey into it. At the convention in February he gave his method as follows, the Bee-Keepers' Review furnishing the paragraph:

"Barrels may be tested as to whether they will leak by blowing or forcing air into a hole in the head; but there is a peculiar knack in doing this. One breath alone will not test the matter. Put the lips or mouth close upon the aperture, and blow in all the air that can be expelled from the lungs; draw in another breath thru the nostrils, still holding with the lips the pressure obtained by the first breath; blow in another breath; hold this and draw in another. Perhaps a part of the third breath may be forced into the barrel, but that is about all. Hold the pressure. If there is a leak, the pressure will soon run down, and the ear may detect the sound of the escaping air. If there is no leak, the pressure will remain; and upon removing the mouth the air will come out of the opening with quite a decided explosion."

Done at the Right Time.—G. M. Doolittle says this in the Progressive Bee-Keeper, about doing things in the apiary at the right time:

Upon their being done at the right time depends the success of many of the operations of the apiary. From what we often see, it is evident that *all* bee-keepers do not realize this. The wise man said in the Scriptures, when he wrote under inspiration, "To everything there is a season, and a time to every purpose under the heaven," and tho he was a preacher instead of an apiarist, he could have done little better had he been the latter; for unless the manipulations and operations in the apiary are done at the right time, and in the proper season, our purposes, no matter how good, will fail of the desired success.

Weak Colonies in the Spring.—In the April Bee-Keepers' Review Editor Hutchinson has this to say about the treatment of weak colonies in the spring:

Weak colonies are something that, it is almost universally agreed, are not worth fussing with in the spring. Uniting them does not seem to help matters much. Several times have I united two or three weak colonies into one in early spring, taking out the extra queens and selling them, only to find, a few days later, the newly formed colony no more populous than was *one* of the colonies that were used in its make-up. Then I would again unite two or three of these made-up-and-run-down-again colonies, only to see them again reduced in numbers. I believe that once, when warm weather came, and the bees finally began to build up, I had the remains of a dozen colonies all in one hive. There is something about this matter that I don't exactly understand. Here are three weak colonies. We unite two of them. A week later it is difficult to say which is the colony that was made up from the two, and which is the one left to itself. See that your weak colonies have sufficient food, tuck them up snug and warm, and then let them alone—and that is good advice to follow with strong colonies.

The Necessary Bee-Supplies.—Have you them on hand, all ready for use when wanted? It is very aggravating to be compelled to wait for the arrival of supplies when the bees are suffering on account of their delay.

BIOGRAPHICAL.

GHENNADJ KANDRATIEFF.

As the present ambitious strides of Russia towards aggrandizement are drawing the attention of the civilized world, it may not be amiss to show what is being done by some of its inhabitants in more peaceable lines. War is surely not a sign of progress, but the quiet pursuit of practical apiculture is one of the growing sciences, which are followed only by civilized men. So on the first page we give the photograph of a leading Russian apiarist.

Mr. Ghennadj Kandratieff was born February 5, 1834, on his hereditary estate of Sazikino, ten versts (a verst being 3,500 feet) from the city of Vrineschma, in the province of Kostroma. His father, a retired colonel, was then living at Sazikino and was the "nobility marshall" of the province. Being an old soldier of the time of Souvoroff, he desired his son to embrace the same career, and sent him, at the age of only seven, to the military Corps Alexander, for children. From this, in 1884, little Kandratieff was sent to the Corps Paul, of the Cadets. In 1853 he was transferred to the regiment Model for the study of cavalry service, and lastly, in 1854, he obtained the epaulets of an officer in the regiment of Cuirassiers of the Grand Duchess Helen Pavlovna.

During the Crimean campaign, Russia was short of officers, and a call was made for volunteers; among these Mr. Kandratieff was placed as a cavalry officer at Sebastopol; at the end of this campaign, after the close of the war, when it became possible for him to quit the military service, he obtained his discharge and gave himself up to his favorite occupation—music.

His talent, his exceptional ability, and his passion for music, had shown during his earliest infancy, and during his military education, while still a boy, he already led the choirs of the cadets in the church.

At length, after numerous difficulties, he succeeded in leaving Russia to go to Italy, the country of music and fine arts. There, during the first four years of his sojourn, he studied with zeal the Italian language, the Italian song, declamation, everything, in fact, which has any relation with scenic art. In 1860 he made his first appearance on the Italian stage, as first bass in the opera of Rossini—Semiramis. This "debut" was very brilliant, and after that he was for four years engaged in twelve of the leading Italian theaters, upon whose stages he filled with great success several roles of his profuse repertoire.

His artistic career was triumphal, and on the first of September, 1864, he was called back to Russia, for an engagement with the Imperial theater of St. Petersburg. He remained there as a singer until 1872, after which time he was appointed general manager of the Imperial Opera, which he managed until September 1, 1900. While he was occupying this position, which required great knowledge, strength of character, coolness and presence of mind, these occupations disturbed his nervous system to such an extent that the doctors advised him to seek for a summer occupation that would compel him to remain all day in the air and sunshine. He had become a member of the Free Economic Imperial Society, and had made the acquaintance of the celebrated professor of chemistry of the University of St. Petersburg, the great apiarist, A. M. Boutleroff. The latter induced him to go into apiculture, and Kandratieff took such a taste for this pursuit that now a life without bees seems to him a life without aim and without interest.

In 1878, Kandratieff and Prof. Boutleroff, who had thus become quite intimate, being both members of the Apiarian Commission of the above-named Imperial Society, were put in possession of 200 dimes of land, on the shores of the Black Sea, not far from Souhoum-Cale, for the rearing and cultivation of bees after rational methods. They then began regular visits to this distant apiary. Mr. Kandratieff even now remembers with pleasure those trips which they usually undertook during the fine season, in the months of April and May, the best time of the year in Caucasus. They would go by rail to Sebastopol (still in ruins since the Crimean War), from there in a carriage to Salta, and thence on a steamer which stopt at all the ports on its way to Batum, whence they took another steamer for Souhoum-Cale. These voyages left with them interesting reminiscences and happy impressions.

Unhappily these pleasurable excursions soon ended. Prof. Boutleroff died suddenly, and in the same year Kandratieff lost his only son, who was feeble in health, and for whom he had hoped to create at Souhoum an earthly paradise, for this section of country is celebrated for its climate. After the boy's death the sale of the apiary was decided upon.

In 1886, Mr. A. Boutleroff founded the first Russian bee-journal. After his death it was managed for some time by the celebrated Russian apiarist Zoubareff, and later the editor's chair was offered to Mr. Kandratieff, who was unable to accept for want of leisure.

In 1891 Kandratieff lost his only remaining child, a daughter. This so deranged his health that he completely lost his night's sleep, finding rest only towards morning each day. To somewhat fill up the terrible vacancy in his life, he undertook, with his friend Izerguine, the translation into Russian of the French edition of "The Hive and Honey-Bee," of Langstroth-Dadant. At the same time he elaborated a program for a new bee-journal. During each summer he took a trip to foreign countries and became acquainted with Metelli, Dubini, Visconti, Paglia, Barbieri, and Lambertenghi, in Italy; and returning by way of Switzerland he regularly visited Edward Bertrand, with whom he always found a hearty reception and many new ideas on bee-culture. Bertrand approved the idea of this new Russian journal, and in 1892 they issued the first number of the "Messenger of Foreign Apiarian Literature"—Wiestnik Inostrannoi Literatury Ptchelovodstiva.

As is often the case when something new appears, the Messenger met many ill-disposed people who affirmed that foreign ideas are of no value to Russia, and that special methods must be created for that country, as if the Russian bees were not the same insect as the bees of other countries. But time smoothed everything; the plan of Kandratieff, of publishing the paper at the low price of one rouble (about 51 cents) and of printing in it all things that were new and worthy of notice in Europe in apiculture, proved to be excellent. The journal had great success; it is now very much read, and its propaganda has had much influence on Russian bee-culture. Many pleasant acknowledegments are received from all parts of the Russian empire. Those letters written mostly by persons who have followed the advice given in that journal, express the hearty thanks of their writers for their leader and guide.

It is especially the Dadant hive and system which Kandratieff recommends in his magazine, showing its advantage over some other methods recommended by opposing apiarists who have their own systems. The result of his constant and indefatigable propaganda concerning this hive, and of the success obtained with it, has been its establishment as the hive the best liked and the most in vogue in Russia.

Kandratieff has put into the hands of his devoted friend, Izerguine, for three years past, the management of the Messenger. He, however, continues to support the journal with his contributions. He has also translated into Russian the "Conduite Du Rucher" of Bertrand, and the pamphlet entitled "The Modified Dadant Hive," also by Bertrand, which is now in its third edition. He has in addition translated the "Memorandum" of the Italian Dubini, and the unedited "Letters of Huber." He has also publisht the Dubini pamphlet "Honey as Food and Medicine" (20,000 copies), and Prof. Zubarsky's, "The Medicinal Properties of Honey," the latter to the extent of 90,000 copies. Owing to the moderate cost of these two pamphlets they have been so scattered all over Russia that some honey-dealers give them away with the honey they sell.

After all that has been said concerning this worthy bee-master, it goes without saying that the name of Kandratieff will remain connected with the transformation of bee-culture in Russia and its development by rational methods, so we may hope that bee-culture there will again reach to the magnitude it used to have in ancient times when that country exported its bee-products to all countries of occidental Europe.

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once, if you want a copy of this song.

Contributed Articles.

No. 3.—Practical Lessons for Beginners in Bee-Culture.

BY J. D. GEHRING.

(Continued from page 230.)

"WELL, Mr. Bond," I continued, "you notice there is a piece of heavy, strong muslin as a cover on the top of the super resting on the frames of the hive. That cover is necessary because without it the bees would get out into the space under the hive-cover and around the super. Of course, you understand, when there are two or more supers on a hive we put the cover on the topmost. I use muslin instead of oilcloth, because muslin lets the moisture and some of the surplus heat escape, and oilcloth does not.

"Now, before we can do anything inside the hive this super must be removed. I have seen bee-keepers who would first blow smoke under the muslin cover into the super to make the bees go down into the hive, but I don't do that because when driven down they are in the way.

"Well, I declare, if there isn't a swarm coming out yonder!"

With this exclamation I started on the run toward the hive casting the swarm, bidding Mr. Bond to follow me.

Arriving at the hive I stoopt over and shoved the entrance-blocks toward each other, thus contracting the entrance-space. Mr. Bond was of course curious to know why I did this, and I explained thus:

"I do this in this case because I don't want the swarm to get out so fast—they were rolling out by the pint, you noticed. The object is this: As there is only a small space for the bees to come out thru, it takes the swarm a long time to get out, and those that are out first get tired flying around. The queen is usually out with the first quarter of the swarm, and is flying around with those that are out, but, as she isn't used to much exercise, she is sooner tired out than the others, and hence, instead of waiting for the rest of the swarm, alights on a convenient branch of a bush or tree to rest, and the swarm clusters there, completely covering the queen. If there is a large bee-space, however, the bees will all get out in about two minutes, and, being fresh on the wing, and excited, they will fly off in a body, sometimes quite a distance away, and then cluster away up in a tall tree, where you need a long ladder and a rope and a saw, or an ax, to get them.

"Now, watch this swarm," I said to Mr. Bond. "You see they are flying around near the hive as tho they didn't know what to do. They do that because they are waiting for the rest of the swarm to join them. There! they are settling on that apple-tree, on a limb low down. Now, I'll show you how *I* hive a swarm of bees," I said to Mr. Bond, pronouncing the personal pronoun with strong emphasis, to remind him of *his* way.

"Now, Mr. Bond," I continued, "the first thing in order in this case is to move this brood-chamber far enough away to make room for the hive I'm going to put in its place. First, however, I open it and take the super off. It is nearly full of honey or I would leave it on. You see I figure to economize strength. The fact is, in my case this is necessary because, as you know, I'm not very strong—my left arm is nearly useless for lifting on account of partial paralysis.

"Why do you reverse the hive?" queried Mr. Bond, after we had moved it to its new place.

"Because," I replied, "if I don't do it the entrance would be facing the same way it did before, and thousands of the bees, as they come in from the fields, would enter the old hive. But I don't want them there, but in the hive the swarm is in.

"But we must now hasten to get the new hive in order and put it in position where the old one stood. We can never know how long a swarm will stay where they settle. You see, this is not the usual time of day for bees to swarm. A swarm that will do one thing out of the usual order can't be trusted not to do something else that is unusual.

"Now," I said, when the new hive had been placed, "we will take a look inside and see that everything is in working order. This hive has eight frames in it, you see, every alternate one filled with three-quarter sheets of comb foundation. The others are empty, because, when the swarm is very large, like the one we are now dealing with, it completely fills the hive. In a short time it becomes so hot inside that, when there are sheets of foundation in each frame, some, and often all of them, get so soft that they collapse to the bottom of the hive. But when only half of the frames are filled with foundation sheets the bees have more room and more air, and the accident mentioned doesn't happen. But now we will get that swarm."

The swarm was secured by standing upon a box, taking a firm hold of the small limb at the end of which most of the bees were clustered, getting hold with my left hand just back of the cluster, and then cutting the limb off carefully with a large and very sharp pocket-knife. Great care had to be taken, of course, not to jar the limb in the act of cutting, and thus dislodge the cluster.

"Now," I said to Mr. Bond, as I was yet standing upon the box with the limb in my hand, "as you are taking practical lessons in bee-keeping, suppose you take hold as near my hand as you can and carry these bees over to the hive. You needn't be afraid if they crawl on your hand, they'll not sting you."

Mr. Bond did as requested, a little timidly, to be sure, but successfully. "Now just lay the limb down carefully in front of the hive, and as close as possible to the entrance, and then watch them run in," I said.

"And is that all there is to it?" askt Mr. Bond, looking surprised, and, I thought, a little disappointed.

"By that you mean, I suppose, that there is much more to it when you hive a swarm of bees," I replied. "Well, I have a much more simple and easy way than even this. But I will tell you about it some other time.

"There is an important secret, however, about this swarming business that you ought to know before you hive any more swarms in the way you learned of your father. I think if you examine all the hives standing around under trees and hedge fences on your farm you will discover that some of them are empty, and I can explain why:

"When a swarm of bees issues from a hive, and the queen has selected a place, or location, for it to cluster, a lot of bees which we call a 'scouting party,' composed of a hundred or more, immediately leave the cluster to find a new home. This advance party usually goes to the nearest piece of timber-land where they look for, and usually find, a suitable cavity in a tree, which they examine and proceed to clean out, if found large enough. This is known as a fact, because bee-hunters have been misled by such proceedings into believing that a bee-tree had been found.

"One such case occurred in the bee-hunting experience of a brother of mine. On looking up into a tree for signs of bees, he saw a large number flying in and out at a hole in the trunk, as tho busily at work in the usual manner of a colony. He then set to work to mark the tree as his property—or the bees, rather—by cutting the initials of his name and the date of the discovery in the bark of the tree. While thus engaged he suddenly heard a great noise of humming, as of a swarm of bees above him, and looking up he saw a large swarm in the act of entering the hollow in the tree.

"This, and like observations by experienced bee-men, has led to the theory of the 'scouting party,' and also to the belief that when these pioneers have the selected home about ready for occupation they either return to the swarm in a body, or else a detachment only goes back, to escort the swarm to the new home. This is doubtless the reason why a clustered swarm will sometimes very suddenly depart for the woods while the bee-keeper is actually engaged in hiving it. And, sometimes, such a swarm will leave a beautiful and well-furnisht hive soon after being put there.

"O, I know this very much resembles a 'fish-story,'" I said, noticing a skeptical smile on Mr. Bond's face. "But I can give you substantiating facts from my own experience:

"One day last year a neighbor a few blocks away sent word that a swarm of bees had settled on the limb of a peach-tree standing near his woodshed in the back yard, and that if I wanted it I should come and get it. Taking my swarm-box, specially made for such occasions to secure and carry the bees home in, I went over to my neighbor's yard. The swarm was a large one, and hung over the wood-shed roof within easy reach. I took my box and climbed upon the roof, and, holding the open end of the box directly under the cluster, I was just in the act of reaching up to give the limb a shake when I heard, directly above my head, a loud buzzing noise as of a small swarm of bees.

I was for the moment greatly puzzled, for the clustering bees had, up to this time, been very quiet, and none had taken wing, I was sure; but, looking upward, I saw flying about the top of the tree in an excited manner, what lookt like a small swarm of bees.

"Well, sir, in much less time than it takes to tell it, that swarm of clustering bees detacht themselves from the limb and were off, going like a cyclone toward the woods down your way."

(To be continued.)

Criticisms and Suggestions about the Score-Card.

BY FRIEDEMANN GREINER.

I HAVE had some anxiety in regard to what the score-card committee would hatch out, and I am pleased now to find the work of our worthy committee in the shape of the proposed score-card in all its details publisht on page 166. I suppose the committee was aware how impossible it is to suit the notions of every one, and probably expected their work to be criticised. If I point out some features wherein a change might be an improvement I do so with due respect to the gentlemen of the committee.

On the "General display" I find nothing whatever to change. It is all right.

In the "Single-case" entry, it seems to me too much importance is attacht to "attractiveness," giving it 50 points. This would be all right in the "General display," but in the "Single-case" entry it seems "attractiveness" might at least be placed on an equal footing with "quality" and "quantity," if not placed below them in importance. A display we expect to be as attractive as possible, but in a single-case exhibition the superiority of the honey itself should be the governing feature.

The "Bee-entry" paragraph needs, according to my ideas, the greatest modification of any. The committee has overlookt the fact that a colony of bees can not be considered complete, in particular for exhibition, without it contains not only queen and workers, but also drones. The latter have, however, not received any consideration at all. The reason for this is not apparent. The drone is the largest, makes the most noise. He is not very modest, by any means, and is very often around when he is not wanted at all. I wonder the committee could overlook him. Can it be possible the committee gives him the slip purposely? Is not the drone of sufficient importance to deserve consideration? If two nuclei were otherwise perfectly equal, but one of them should contain a few drones I should certainly award the first prize to that one. If both should contain drones, but those of the one were larger, and showed better markings, then that one would be preferred by me.

"Color" and "markings" might be taken as referring to all the bee-individuals, as queen, workers and drones, but it would be generally understood as meaning just the working bees, therefore I believe the drone should be especially mentioned, and would favor the score-card about as follows:

NUCLEUS OF BEES IN OBSERVATION HIVE.	Color and markings of workers and drones	25
	Size of workers and drones	20
	Queen, presence and markings	20
	Drones, presence	10
	Brood, including drone-brood	10
	Quietness of bees	5
	Style of comb	5
	Style of hive	5

In regard to beeswax there is some uncertainty as to color. It is not fully settled what the color of the wax should be, and it is left to the one acting as judge whether he would give preference to yellow wax or white. As the bees manufacture it, its color may be said to be white; as we manufacture it, it is yellow—lemon-yellow at its best; I would be in favor of yellow as the standard color.

Wax should also have a peculiar aromatic odor. Aroma should be taken into account when judging, and so should have a place on the score-card. I would reduce "color" and "purity"—each given 30 points on the card—by five each, and place the gained 10 to the credit of "aroma." True, a judge may act upon his own ideas, but it seems to me it would be advisable to take this point in.

Ontario Co., N. Y.

The Premiums offered this week are well worth working for. Look at them.

Are Bees Necessary to the Complete Fertilization of the Bloom of Fruit-Trees?

BY THADDEUS SMITH.

THE part that bees play in pollenizing fruit-bloom is a subject that has been discust at various times in the past, and is still made a prominent theme in some bee-papers, and in some of the discussions of bee-keepers' conventions. Claims are made by them that bees are *necessary* in order to insure a full crop of fruit, but such claims are not substantiated by facts or any positive evidence to sustain them. Bees visit fruit-tree bloom for honey and pollen, and in so doing go from one flower to another and are supposed by some thus to disseminate the pollen that fertilizes the flower. It is a very pretty theory. Bees and flowers! Sounds somewhat poetical, you know. But it lacks the facts to sustain it. It has been asserted so often that many persons have taken it for granted that it is true without investigation, and the cry has been taken up and repeated by writers who know nothing practically about it. But some of our experiment stations and professors of a more investigating mind feel the necessity of having some positive proof of these often repeated assertions, and are making experiments to see if they can find that proof. A report of some of these experiments was recently made by Prof. Lowe to a New York convention of bee-keepers, and an account was given of them in an editorial in Gleanings in Bee-Culture. Further on I wish to refer to these experiments more in detail.

There has been some contention between fruit-growers and bee-keepers that has produced an ill-feeling between them, the fruit-growers contending that bees destroy grapes and other fruit by biting holes, and sucking out the juice, leaving the fruit to rot; while bee-keepers claimed that fruit-growers spray their fruit-trees unnecessarily while they are in bloom, thus poisoning their bees. These charges and countercharges have produced a bad feeling between the two classes in some sections, when in reality there is no conflicting interest. The fruit-growers are certainly of benefit to bee-keepers because they increase the area of bee-pasture that supplies the bees with more honey and pollen. Bee-keepers, with less show of reason, are now trying to convince the fruit-men that bees are of great benefit to them, by claiming that a full crop of fruit can not be had without the aid of bees to pollenize the bloom.

I have been both a bee-keeper and a fruit-grower for over 40 years, and have been an enthusiast in both occupations, and have given these matters of contention between the two classes a thoro and impartial investigation, and arrived at conclusions that I believe are just to both parties.

Some 15 or 20 years before the case of Utter vs. Utter was brought for trial in court, I had settled the matter of bees destroying grapes, in my own mind—completely exonerating the bees. I had 30 acres of grapes, and over 40 colonies of bees, and the time came that I found the bees working upon the Delaware and other early grapes in great numbers, and *apparently* destroying hundreds of pounds. I was greatly perplext and disliked to give up my bees, but if they were the real culprits I would be compelled to give them up. I did not act hastily in the matter, but set about thoroly to investigate the subject, and after two or three years I had solved the mystery. I discovered that birds—one bird in particular, the beautiful Baltimore oriole—first punctured the grapes, and the bees gathered only the wasting juices; and further experiments convinced me that bees *never* attack perfectly sound grapes or other fruit. I also find myself on the side of the bees in the case of spraying fruit-trees while in bloom. I think it is unnecessary to spray while in bloom; and not only that, but it is an injury to the bloom to do so.

But when it comes to the claims of my bee-keeping friends, that no complete pollenizing of fruit-bloom can take place without the intervention of bees, and consequently a full crop of fruit can not be had without bees, I must respectfully differ from them, because I see, year after year, both large and fine crops of fruit, of many varieties, raised without the intervention of bees, in fact where bees are entirely excluded from the bloom by natural causes. It would be unreasonable in me to doubt my own senses of sight and taste to believe that there was anything in such claims of bee-keepers. From my view the claim looks absurd, and I take the position that bees are *not* necessary to the complete pollenizing of any kind of fruit-bloom, and I think I can prove it. Now "to the law and the testimony," or rather to the *facts* that ought to convince any unprejudiced mind.

But first I wish to notice the experiments made by Prof

Lowe and heretofore alluded to. These were made by enveloping trees and parts of trees in a hood made of sheeting in order to exclude bees and all other insects while the trees were in bloom. The trees so sheeted were found to set much less fruit than those left in their natural condition. It would have been very unreasonable to have expected any other result from this experiment. The trees so treated were placed in a very unnatural condition. The free circulation of the air was excluded. The vivifying rays of the sun, so necessary to the growth and development of the average plant life, was excluded, and light, tho not entirely excluded, was greatly obscured, all of which Nature provides most bountifully for the perfect normal development of fruit. The unnatural heat in that hood when the sun was shining upon it, without the circulation of air inside, may alone have been sufficient to have destroyed the delicate germ of reproduction, or prevented the grains of pollen from ripening sufficiently to perform its functions. The sun shining upon the outside of this hood, with no air in circulation within it, would produce an unnatural heat inside, enough to injure the undevelopt pollen and pistils; and these conditions would render the experiment abortive. In keeping the bees and other insects out, the *wind* was also kept out, and this is the main cause of the unreliability of this experiment. No one will deny that the wind plays a most important part in pollenizing flowers not only of fruit-trees, but of all the vegetable kingdom, many of which are never visited by insects of any kind. The wind loosens the pollen from the stamens and sets it in motion, and the invisible particles are wafted hither and thither by every breeze that blows, bringing some of these particles in contact with the pistils of the flowers, and in some wonderfully inscrutable way causing them to produce fruit and propagate the species. The wind is Nature's agent to disseminate pollen, and every experiment that excludes it is unreliable.

The All-wise God who made all things and provided for their continuance on earth, and said that there should be seed-time and harvest as long as the world stands, did not leave the fulfillment of this promise to depend upon the uncertainty of bees and other insects, but chose a more universal and surer medium to perform the important work of keeping up the vegetable kingdom—of producing fruit.

In some countries there are no bees, as in North America before the white men came, and there are now places in this country where there are no bees, and in many of these places the circumstances and surroundings are such that other insects can not do this work. It is to some of these places where there are no bees, to which I wish to call attention, and give some *facts* that well sustain my position.

I live on an island in Lake Erie, and near by me are several smaller islands upon which no bees are kept, and they being from six to ten miles by water from any place where there are bees, no bees ever visit them. These islands are all noted for their production of fruit. Middle Bass Island is just across the international boundary line between Canada and the United States, and is one of the largest of these islands where there are no bees, and the whole island is devoted to successful fruit-culture. Upon this island lives a friend, Mr. George M. High, one of the most successful fruit-growers in the State of Ohio, who excels both in quantity and quality of his fruit; growing sucessfully nearly every variety of fruit that can be grown in this latitude. Several years ago I askt Mr. High to join me in investigations by making daily observations when his trees were in bloom, to see if they were visited by honey-bees and other insects, and to what extent by other insects. This he readily consented to do, becoming much interested in the matter himself. His reports were that he had never seen a honey-bee in his orchard, saw a few bumble-bees but they were not enough to visit one fruit-bloom in ten thousand; also saw a few small "other insects" on the bloom.

These observations have continued for several years with the same result. I visit Mr. High about twice a year —when fruit-trees are in bloom and when the fruit is ripe— and I know what he and his neighbors are doing in the fruit-line. Their trees set fruit so abundantly that peaches and plums have always to be thinned out, and they have surer annual crops than any other place that I know of—*all without bees*; and these facts ought to convince the most skeptical, and those who are most anxiously interested, to establish the contrary that bees are *not necessary* to pollenize the bloom of fruit-trees.

I am aware that I may be confronted with the assertion, or argument, if you choose so to call it, that other insects were or might have been the means of pollenizing these island fruit-trees so perfectly. For argument's sake I grant this, and let us see what it proves. If anything it proves that bees are *unnecessary*, as other insects can insure good crops of fruit without bees. So the advocates of the importance of bees do not get much comfort from that. But I deny that other insects did it, and I propose to prove it.

The first witness that I shall introduce is Mr. O. L. Hershiser, one of the witnesses who gave his evidence at the convention of the New York State Association of Bee-Keepers on the side of those who were trying to prove that bees were necessary to pollenization, etc. I quote from the proceedings of that New York convention as reported in an editorial in Gleanings in Bee-Culture.

"When the professor [Lowe] was askt how much of this pollination was attributable to bees, and how much to other insects, he said he could not tell; but Mr. O. L Hershiser in referring to a similar set of experiments made some years ago at the Michigan Agricultural College showing the same results, said the bees were altogether the earliest insects out; that at the time the average fruit-tree is in bloom it is too early in the spring for other insects to be of any value. In his opinion the covering of the limbs or the covering of the whole tree, as explained by Prof. Lowe, showed clearly that the bees, and they alone, did the mixing of the pollen."

Notice Mr. H's evidence as to the fact that "*it is too early in the spring for other insects to be of any value*;" and this corresponds exactly with Mr. High's observation on Middle Bass Island, and with my own, made repeatedly, here on Pelee Island. When these three witnesses agree so well in their evidence, that "there are not insects enough out at the time of the blossoming of the average fruit-tree to be of any value" in pollenizing, then it ought to be sufficient to establish that fact beyond question, and put a quietus to the "other insect" theory.

As to Mr. H's "opinion," or his conclusion from Mr. Lowe's experiments that "*the bees, and they alone, did the mixing of the pollen*," I am willing to leave it for what it is worth, as from the facts already given it can not be worth much. He reminds me of some other evidence and conclusions that I once saw in print on this subject. This writer said that he knew the bees were of great benefit to fruit-growers because he had some pear-trees near his apiary, and the *sides* of the trees next to his bees bore a good crop of fruit while the opposite side bore scarcely any. Comment is unnecessary.

There are a number of other points on this subject that I would like to notice, but fear that I am already too long. But I will say, if there are experimenters and professors who really desire to give this matter an impartial investigation, I should be pleased to have them come here and I will take pleasure in doing all I can to aid them.

Pelee Island, Ontario, Canada.

Queens Only One Year Old for Comb Honey.

BY G. M. DOOLITTLE.

A CORRESPONDENT writes as follows: I have decided that every colony that is intended to be run for comb honey during 1902 must contain a queen of this year's rearing. I desire good queens, that my stock may not deteriorate. In view of the foregoing, what plan can I follow in order to produce the best results for a series of years? Please tell me thru the columns of the American Bee Journal."

In answering this, I must say I can not conceive what line of argument could have been used to bring the questioner to a decision that he would not allow a queen over a year old in his apiary, which was to be run for comb honey, and can not help thinking that when his experience accumulates, he will find that his decision is not well-founded; for queens which are in their second year do fully as good work as younger ones, where the colony is workt for comb honey, and often are equally good the third and fourth year. Those who have read the Canadian Bee Journal for February, 1901, and treasured up what is found there about queens, will have "a feast of good things" to revel in for some time to come, along this matter of queen-rearing. There, Mr. J. B. Hall, than whom the world can not boast of a greater apiarist or more practical comb-honey producer, has things to say about prolific queens which it would be well for all those to heed who have considered that prolificness in queens was the *ne plus ultra*. Among other things he said was this:

"I want longevity in my bees; I want that first and foremost; that is why I don't want to replace my queens every year, because if I do I must kill them, and I don't know what to kill. If I keep them three or four years and they have done good work for four years, wintered well

given me comb honey and in good shape, that is the kind of queens that I want to rear others from." And in reading that, from the foremost practical comb-honey producer of the world, I said right out loud, "*Amen.*" Working along that line means a constant improvement in our bees, while resolving that each colony must have a new queen every year, has not a single element of improvement in the whole "shooting match." Besides the above I find, as a rule, that the bees will supersede their own queens as soon as they begin to fail to any appreciable extent; and when the bees undertake this work it is done much more satisfactorily, all things considered, than it is when the apiarist attempts to say, "This shall be," or "This shall not be."

But if our correspondent thinks he must have his own way, then there probably is no better plan than to follow what is given in "Scientific Queen-Rearing," or that given by W. H. Pridgen, during 1900, in the bee-papers. If you think this too much bother, or consider it "fussy," as some claim, then you can rear pretty good queens in this way:

Kill the old queen and let each colony rear one from her brood. In five days from the time you killed the old queen, open the hive and look for queen-cells. In doing this it is well to shake the bees off the combs so that the cells can easily be discovered. If they are found capt at this time they should be destroyed, as they will contain larvæ that are too old to make good queens. Bees do not cap over a cell containing a good queen-larva, as a rule, in less than six days from the time the mother queen is removed. The reason for this lies in the fact that bees rarely miss their queen to a sufficient extent to start cells in less than from two to two and one-half days after her removal; and if you find cells sealed over on the fifth day after the removal of the old (or mother) queen, you may know that the larva in said capt cell must have been three to three and a half days old when the bees undertook to change it to a queen. All queen-rearers agree that larvæ two days old and under give the best queens, and that a larva older than three days should never be used under any circumstances, if we would have queens which can to any extent be called good. Of course, the colony is to be well fed, if no honey is coming in from the fields, until the sixth day, or till all cells are capt over.

Onondaga Co., N. Y.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Getting Increase—Kind of Bees.

1. What is the best way to increase rapidly the number of colonies for a beginner? I have six strong and one weak colony that I shall have to feed. I am giving partly filled sections to this one now. I would like to increase to 60, but do not count on getting any surplus honey to sell. This is a fair location for honey. I had one strong colony that put 66 pounds of honey in sections; the other one did not do much but swarm; I got 5 natural swarms from it. The 4 will winter well. The honey sources are willow, elm, soft maple, sugar maple, basswood, red and black raspberries in abundance, gooseberry, plum, apple, peach, cherry, and a few pears. The fall bloom is where we get most of our surplus, such as buckwheat, goldenrod, and fireweed. You see I have a steady flow most of the summer, which is necessary for you to know in order to give your opinion.

I do not know what my bees are. I will Italianize the whole in a little while, or as soon as they begin flying well. I bought 3 queens last September, and made a success of all, so I have only 4 more to make all of an improved strain, which I think will be the best way to start.

2. Which strain is the better for extracted honey, the 5 or 3 banded?

3. Could you tell me what breed mine are? They have 5 bands, are larger than Italians, and longer, are ugly, and rush about the hive as soon as opened, and sting anything that comes along quickly, and will only retreat before a cloud of smoke. In handling supers it keeps one using the smoker to do anything with them. They are good workers, and if they were gentle I would not change.

MICHIGAN.

ANSWERS.—1. If you do anything in the way of rapid increase, the first thing is to get a text-book and become familiar with general principles and with the different ways of increase therein. My advice to a beginner desirous of increasing from 7 to 60 would be—don't. You might without such a great deal of trouble get 60 started, and then you might with less trouble have all dead before Christmas. The wiser plan will be not to set any such limit, but to work on safe ground and increase just what you can safely, whether it be to 16 or 60. Take the nucleus plan, and having used one or two colonies to start nuclei, draw from the others to build them up, but do not allow yourself in any case to draw from a colony so as to reduce it to less than four frames of brood. Then you can start others, and as fast as a nucleus becomes strong enough it can do its part toward helping, only keep in mind all the time that in drawing you must not reduce to less than four frames of brood. In this way you will not be caught with a lot of weaklings, but can close up any time when the weather threatens to close up. Of course, with such a long season as you seem to have you *may* be able to reach the goal you have set, but don't count on going beyond just what you can safely do.

2. Some colonies of one kind are best, and again some of the other.

3. Very likely they are Italians, and very likely if you compare carefully with other bees *of the same age*, you will find them of the same size as other Italians. Some of the 5-banded Italians are reported as cross, and others as gentle.

Queen Flying in March.

March 24th my bees had a fine flight, it being the first warm day since the holidays. While watching them just at noon I saw a queen come out and fly away, but return in 15 or 20 minutes. This was repeated three or four times while I was watching them. The colony is strong in bees, and was working nicely carrying in pollen. Now, was that a young queen trying to mate? If so, why did the bees supersede the old queen so early when there are no drones? If the colony became queenless in the winter where did they get the egg to rear the queen? It has been so cold since that I can't look thru the hive. It has been too cold for bees to fly ever since. I have been keeping bees since the spring of 1881, but this is something new to me. INDIANA.

ANSWER.—It may be that the young queen was reared last fall late and failed to mate, and she may yet be all right. At any rate such cases have been reported in which the queens turned out well.

Alfalfa Not Recommended for South Carolina.

I have about 20 colonies of bees at home, and on another farm 3 miles away 30. I wish to try, on a small scale, the best clover for hay and also for bees. A friend of mine tells me that while he was in the distant West he noticed bees doing well on alfalfa, and says its hay quality surpasses all he knows of. But, of course, he knows nothing as to its being adapted to our climate. Will alfalfa do well here? Is it used to any extent by bees? How much per acre, and at what season can I with reasonable certainty sow the seed? Will the alfalfa grow wild? I think I have heard that bees may not look for help from alfalfa for two or three years after sowing. SOUTH CAROLINA.

ANSWER.—As far cast as Illinois alfalfa will grow, but seems to be of no value for bees, altho in the States farther west it is one of the best honey-plants. It is not likely that it would be of any value in South Carolina. Sweet clover, alsike, and crimson clover, are the things for you to try.

When and How to Form Nuclei.

1. I have studied three bee-papers all the winter, besides several bee-books, but so many plans only confuse me. What time (please give month) and how shall I form nuclei for increase, so as not to interfere with some surplus honey?

2. Will taking two frames of brood and bees before time for white clover weaken the colony so they will not store any honey?

I opened a hive the other day, and very much to my

surprise discovered a clipt queen. How she came there I do not know, but I think she is the premium queen I had of Dr. Miller last year, which I thought the bees killed while robbing. I put the empty combs (as I thought) in this hive, and must have taken the queen without knowing it. Anyhow, she has a nice lot of Italian bees. SUBSCRIBER.

ANSWERS.—1. In forming nuclei, don't go by the month, but by the posies and the strength of colonies, altho June will probably be the month. When the first white clover blossom is seen, it will be early enough, altho you might commence a little sooner if colonies are very strong, and in any case not till they are strong. One way to form a nucleus is to take three frames of brood with adhering bees and pen them in a hive bee-tight, plugging up the entrance by cramming into it green leaves. Not sooner than the next day at noon open the entrance, and they will be likely to stay. It is easier to get queenless bees to stay in a new place. Try this: Take the colony that has your best queen, and if it is not strong make it strong by giving it frames of brood a week before you operate upon it. Then take from it two frames of brood with adhering bees and the queen, and put them in a hive on a new stand. Not less than seven and not more than nine days later, form your nuclei by giving each three frames of brood with bees, putting one of the nuclei where the nucleus with the queen has been for the past week, and putting the hive with the queen back on the old stand. See that each nucleus has two or more good queen-cells near the center, so there will be no danger of chilling.

2. No; from a strong colony you might take more than that and still get a fair crop. But taking before white clover is much more expensive than taking later. In a good season it would hurt less to take two frames every 10 days if you wait till they are storing well on clover.

Feeding Sorghum Molasses.

What would you say about feeding bees sorghum molasses (that is, molasses made from cane)? Do you think it is injurious to the bees?

I am keeping bees for another man, on shares. I just began last fall, but I have kept from one to five colonies of my own for five years. Last year was a total failure here, no clover at all, but the prospects are good for this year. Clover is coming on in fine shape. Bees are flying nearly every day, and are working on elm. I don't know what they get. MISSOURI.

ANSWER.—It would not do to feed sorghum molasses for winter food, but when bees are flying daily in the spring they may be fed sorghum or anything else they will take that is not actually poisonous.

Inverting to Destroy Queen-Cells.

I have nearly decided to adopt the Heddon hive in my future plans for increase in the apiary, and I have seen it stated by Mr. Heddon that a sure way of destroying queen-cells in that hive is simply to invert the section and the bees will destroy all queen-cells. Can you tell me if it is a fact? Have you ever given the Heddon hive a trial? As hunting for queen-cells forms no inconsiderable part of a day's work in the apiary, a plan that will destroy those we do not want as easily as reported, is very desirable, if true. And as it is scarcely practicable with the suspended frame, I am ready to adopt an invertible hive, if it will do the business. "RIP VAN WINKLE."

ANSWER.—A few years ago it was thought by some that inverting queen-cells would lead to their destruction by the bees, but after further trial the plan has been found to be altogether unreliable. I have never tried the Heddon hive.

Swarming.

1. When a prime swarm issues does the queen always come out about the last of all, and first when an after-swarm issues?

2. In swarming-time, when a colony seems to be about ready to swarm, how would it work to place a cage in front of the hive with a bee-escape from hive to cage, and another from the cage to another hive standing at one side with full sheets of foundation? And about the second day put a queen in the new hive, and leave them arranged in that way for several days? Would I succeed in running most of the workers from the old hive into the new? If so, would they accept the new queen and go to work all right? Would the queen and bees left in the old hive give up the idea of swarming? IOWA.

ANSWERS.—1. No fixt rule about it. The queen may be among the first or among the last in either case; but she is more likely to be among the last in a prime swarm and among the first in an after-swarm. But as to the after-swarm I have had very little chance for observation, and am ready to be corrected.

2. Sorry to say I don't believe it would work at all; but having never tried it I may be mistaken. My guess would be that it would fail in each particular.

Beet-Sugar Factory's Effect on Bees.

I attended a beet-sugar meeting the other night, and in discussing the matter a man from Rockyford said that bee-keepers would have to move their bees a mile or so from the factory, as acids and chemicals were used there that would kill the bees. It was not a bee-meeting, so I could not discuss this subject, but I would like to have you tell us thru the columns of the American Bee Journal whether or not this is true. It is a matter of great importance to bee-keepers out West. COLORADO.

ANSWER.—I don't know whether a beet-sugar factory is a bad thing for bees or not. Some subscribers must be living within a mile of one of these factories; will they please tell us?

The Afterthought.

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

EXTRACTING HONEY.

Yes, sir-ee, Mr. Aikin, propolis will go to the bottom where it can't do anything else than burn on. Burrs and all sorts of scrapings with propolis in should go thru the solar extractor the first thing. Then, as after transactions, re-melt the wax, if necessary, and re-treat the waste cake. And—another yes, sir-ee—the stubbornness with which cold comb honey refuses to take heat is quite incomprehensible to the beginner in bee-practice. Sometimes when in a hurry one can run the combs thru the extractor and throw out part of the honey, then hang them up in a warm atmosphere an hour or two, then run them thru again. But don't hang the combs very close together, even if three-fourths empty. The idea of a large gravitating tank with chance to heat it underneath is an important idea. Two such tanks, so one could be undisturbed while the other was being filled, would seem to be the ideal arrangement. And the whole article on page 167 is one of the very best Mr. Aikin has given us.

QUELLING ROBBER-BEES WITH GUNPOWDER.

"And sometimes civilization does git forrard
Upon a powder cart."

We know that; but most of us never thought of civilizing robber-bees with gunpowder. No doubt it would "hist 'em" if the charge was big enough. And any very offensive smell *may* discourage them if they are only fussing around and not getting much. Some brother who has a too-well-worn hat, present it to Peacemaker as a premium for his contribution. Page 175.

THAT GENEROUS DOG AND BEE-STINGS.

That was an all-right and head-level sort of dog, on page 175, that wanted to share with his young master the bliss of communion with bumble-bees. Masters like the aforesaid should not object to tasting of dishes which they have cookt.

DOLLAR-A-POUND HONEY—EXCLUDING BEES.

Honey at a dollar a pound is rather dear. But health and fun at a dollar a pound—well, most of us would fain purchase a little occasionally. So let Mr. Metcalf go on hunting his dollar-a-pound wild honey. Page 180.

So Chicago can get along nicely without a bee-exclusion

act. But ever and anon some little village (nothing else on its comos-embracing mind) finds it necessary to put them out. Page 179.

DRONES AND WORKERS.

I hardly think Mr. C. P. Dadant needs to cavil about a drone eating as much as two workers. Sorry I haven't the exact weight of drones at hand—but all similar objects are to each other as their cubes. So for workers it should be 5x5x5=125; and for drones 4x4x4=64. As the drone's shape is somewhat blunter, it should take somewhat more than 125 workers to equal 64 drones in bulk. Why not expect them to eat accordingly? Again, the drone probably eats all he can, while the workers never do except in rushing times. If Mr. D. is right, that the drone's bulk is only a half more than the worker's, then much of the above falls to the ground.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

SUNSHINE IN THE HOME.

How few of us understand what sunshine has done for the world. Except for the blessed beams which come with their warmth of light, we could have no vegetable growth. The plants need the sunlight to change the carbon dioxide which they inhale from the air, and the water which comes up to them from the roots into the starch, sugar and oils which are to nonrish them and to feed their tissues. Indeed, we owe to the sunshine the great coal-beds which make us so rich as a nation, and which, of themselves, contribute so largely to the comfort of so many of our home circles.

Sunshine in the home is as great a factor in supplying its best fruits as it is in the world about us in building up the great plant portion of the earth. Some years since, a man by the name of Alexis St. Martin, received a gunshot wonnd over the upper part of his abdomen. The healing was imperfect and left a flap which opened into the stomach. Thus, there was formed a sort of a door so that any observer could not only look into the stomach and see its condition but could also reach in and withdraw the injesta so as to note any time just the condition of digestion. Some very interesting facts were observed. St. Martin was taken around to various of the medical colleges that the students might have the benefit of direct observation regarding digestion. Students are not always considerate and thus St. Martin was often vext by them. At times he became very irritable and peevish. With age he became so susceptible to outward impressions that it was very easy to affect his temper. He could readily be made either angry or happy at the will of those who held him in charge. It was found that if he was seriously irritated, immediately after eating a full meal, that the stomach remained pallid, showing that the circulation was held in abeyance, the gastric juice or digestive fluid failed to appear in the stomach, and thus there was an almost total failure of the food to digest. On the other hand, if he was in merry mood, the stomach flusht up as the blood conrst thru the capillary circulation, the digestive juices were poured out generously, and the food was soon liquefied, absorbed into the blood, and hastened on to the tissues to help on the work of assimilation.

Here, then, we had a very graphic illustration of what many of us have proved in our own experience. How often has the letter bearing sad tidings, or the evil news told to us just after meal-taking, seemed to stop entirely the wheels of digestion. Often sudden grief of this kind has so checkt the machinery of digestion as to give a fatal shock to the system. It is now a well-known physiological fact that any thing which disturbs the mind is a serious break upon all the bodily functions. With mental depression, the heart beats more slowly, the lungs fill less frequently, all the secretions are poured out with languor, and the whole body seems to call a halt. It is no wonder, then, that so important a part of our functional activities as that of digestion should be one of the most ready respondents to this evil effect of bad news.

We see, then, how important it is, if we would maintain ealth, that we should bring great floods of sunshine into the home, and should keep from it everything that incites worry or brings displeasure.

It is specially desirable that this matter of sunshine should never be lost sight of at meal-time. Anything that makes the table look more beautiful, as the neat and orderly arrangement of dishes and viands, or the vase of flowers, contributes not only to good digestion but as surely to good health and long life. We are often urged to eat slowly that the victuals may be more thoroly masticated and digestion hastened. This is certainly excellent advice. But the long sitting at the table, and the happy disposition of each person in the home to do all possible to make the—I wish I might say *hour* of meal-taking, an hour so full of glee that it will brighten all the other hours of the day, is doing more than they know to keep dread disease from the household. Is it Shakespeare who says, "pleasure physics pain," or something to that effect. I wish I could say something in these talks on the home circle to brighten all the homes of the land, for I would in so doing add not only greatly to the health and vigor of all our readers, but would also do very much to make the work of life much more effective.

There is another consideration in reference to this matter which is well worth our thought. Discomfort in itself is very apt to breed the sullen disposition and the irritable temper. From what I have said above, these induce dyspepsia and ill-health. These further build on to the discomfort, which adds again to impede digestion, and thus we have a fearful compound interest which will almost require a miracle to prevent serious disaster.

We often hear it said that worry hurts worse and kills more than does work. This is certainly true, and is easily explained from what has been said above. Surely, then, we make no mistake when we do our utmost to flood the home circle with brightest sunshine. The kind word, the thoughtful act, and the loving sympathy, not only give a foretaste of heaven in our homes, but they tend more than anything else to fence off disease and sickness, and to carry youth into old age. If we could do anything to secure such homes everywhere in our country, we would do that which would be greater with promise for the future of our good land than does even the wondrous prosperity which I referred to in my last article. A country full of bright, sunny homes would also be great in patriotism, and would ever be invincible against any foe that might dare to cross its borders.

NURSING IN THE HOME.

I am also minded to say a few words regarding nursing. One has only to be sick and in bed a few days to appreciate the kind ministrations of the loving hands and hearts that do so much to rob even sickness of its terrors, and so much to drive the unwelcome visitor away. It is often said, and I am sure with entire truth, that, of the two, the good nurse is of more value than even the good doctor. We know of a certainty that medicine at the best is only a minor aid in the work of recovering lost health. Very likely many times the medicine does more harm than good. We can never say the same of the good, thoughtful nurse. I have often thought that were I a girl or young woman, and time would permit, I should take the training necessary to make a first-class nurse even tho I might never wish to make nursing a profession. It is certainly well for every young woman to be fortified by having some business which in case of need would make her independent. There are a few things that woman is preeminently qualified to do. She alone can make the beautiful home; she alone can attain highest excellence in teaching children; she alone can reach the highest attainment as the nurse. Like the good musician, so, too, the good nurse, wherever her lot may be cast, will never find her skill and ability begging opportunities to make themselves felt and useful.

The first thing the good nurse will look to is such thoughtful care and attention that the patient can not have even the slightest worry over the closing of a window, the neatness of the room, the taking of medicine, etc. Every need and requirement will be foreseen and met with such promptness that the patient will have no worry at all. Quiet in the room and about the house, especially in a case where the nerves are involved, will be insisted upon by the good nurse. Inquiring friends will be courteously thankt for their thoughtfulness in calling and the hope exprest that the sick one will be able very soon to see them. No pains will be spared to make the sick one in the highest degree comfortable. Shaking up of the pillows, frequent arrangement of the bed-clothes, and the oft-repeated bathing of the face and hands, especially in the case of fevers, will never be omitted. Perhaps the most important thing of all, and we may say the hardest thing, for the nurse is apt to become very tired and sleepy, is that she

Langstroth on... The Honey-Bee

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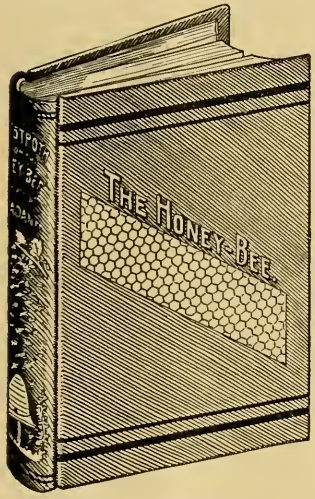

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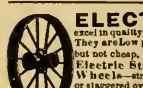

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should always look happy and cheerful. The best medicine that the sick one can receive is great allopathic doses of encouragement. Indeed, the cheer that the doctor's visit gives is usually more potent than the medicine he leaves. We see, then, that the nurse whose face is ever full of sunshine, and whose very mien and carriage brings courage and hopefulness, will be one of the most helpful agents in bringing back lost health and vigor.

MEDICINES—PARTICULARLY THE PATENT KINDS.

There are a few things that the sick person can never afford to do. I refer especially to the use of patent medicines. Dr. Oliver Wendell Holmes, so long a favorite lecturer in the Harvard Medical College, made very witty and wise suggestions. One of his telling remarks that I remember is as follows:

"It would be a splendid thing if all the medicine in the world were thrown into the sea, but it would be awful on the fish."

I presume he was wholly right. I know he would have been if he had the word "patent" placed before medicine. Perfection is not of this world. Yet as we all know, patent medicines will cure everything! This one thing ought to condemn them. How utterly irrational is the whole scheme of patent medicines. We know that even the wisest and most experienced physicians usually find it difficult to diagnose diseases. We also know that medicines given under the best direction, as Dr. Holmes' witticism suggests, are of doubtful use. Patent medicines to be rational at all must cure everything, which is surely impossible and absurd. The newspaper advertisements show plainly that patent medicines are gulpt down by the car-load. Is there anything that proves more surely the gullibility and readiness of our people to be hoaxt and defrauded than the wholesale consumption of these vile compounds? I hope all of our home circles will see to it that all of these quack remedies are forever banisht from their households. If we must take medicine—it is often wiser to touch none of it—let us only use it at the suggestion and under the direction of the best medical advice we can secure.

THE AMERICAN FRUIT AND VEGETABLE JOURNAL, which we have been offering in connection with the American Bee Journal, has been sold to the Farm, Field and Fireside, of Chicago, and will be publisht in connection with the monthly edition of that excellent farm journal. So those of our readers who were getting the first-named paper will not be losing anything by the consolidation.

* * * *

Sowing Cleome Seed.—In reply to our request last week about sowing cleome seed, W. Cartwright, of Hardin Co., Iowa, says:

"It will grow and mature in the fall or spring. If I wanted to put it on cultivated land I would sow in the spring and harrow it in. It will reseed itself afterward. Don't sow it on wet land."

For Sale 10 COLONIES OF BEES in eight-frame dovetailed hives, at $3.25 per colony. My bees are healthy, there never having been any disease among them. CHAS. SECKMAN, Shipping-point, LINCOLN. Saltillo, Nebr.
16A2t Please mention the Bee Journal.

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—BY—
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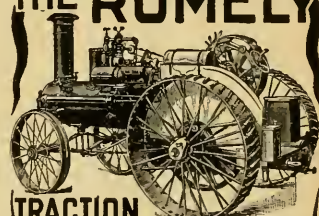

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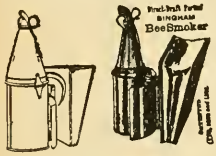

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Made of sheet brass, which does not rust or burn out; should last a lifetime. You need one, but they cost 25 cts. more than tin of the same size. The little open cut shows our brass hinge put on the 3 larger sizes. No wonder Bingham's 4-inch smoke-engine goes without puffing, and does not drop inky drops. The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

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6A26t Spring Hill, Tenn.

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A26t **Marshfield Manufacturing Co., Marshfield, Wis.**

GENERAL ITEMS

Bringing in Pollen—White Clover.

My bees are still packt as for winter, but I think I shall unpack them soon. They were bringing in pollen on Easter Sunday for the first time in the new century. White clover has come thru the winter in fine condition, and I look for a good honey-year.

H. W. CONGDON.

Hardin Co., Iowa, April 10.

Cause of Bees Dying.

In the answer to West Virginia on page 201 Dr. Miller says, "It is painful to say I don't know." I would like to suggest that variable temperature combined with inferior stores and the long confinement may have had something to do with the matter. The mercury ranged from zero to 40 degrees above, several times within one week during the past winter. My bees spotted the hives and the tops of the frames the worst I have ever known them to do in my 10 years of bee-keeping.

J. J. STALNAKER.

Braxton Co., W. Va., April 5.

Loss 15 per Cent—Death of a War Veteran.

My bees are not wintering in good condition. My loss will be about 15 percent, all owing to the fact that I was not thoro in preparing them for winter. We had sickness in our home and the bees were not lookt after as well as they should have been. We laid my father away to rest on March 25th, after having suffered for over a year with progressive paralysis. He was a war veteran, belonging to Company B, 75th New York Volunteers.

CARSON VAN BLARICUM.

Calhoun Co., Mich., March 30.

Wintered Well.

I took my bees out of the cellar yesterday morning and they had a good flight. I put 41 colonies into the cellar last fall, and was lucky enough to take 40 out yesterday, which beats my record the two preceding years very much indeed. However, I have always lost some in the spring after they were placed on the summer stands, and I presume the present season will be no exception to the rule.

Cook Co., Ill., April 2. C. H. MCNEIL.

A Report from Canada.

I put 116 colonies into the cellar early last November, and they are there yet. Sleighing is still fairly good, so I do not know when I will be able to put them out, nor what my luck will be when I do. Three very light ones that I had set to one side are in fine condition, and will come thru in good shape, so I am hopeful for the rest. A. BOOMER.

Ontario, Canada, April 5.

Wintered in the Cellar.

The bees are still in the cellar, and "roaring" to get out, but the weather is unfit. Cold and high winds, rain, sleet and snow alternating, make it unsafe. They were put into the cellar Nov. 8th. Ten of the colonies have been confined since that time, but the rest (26 colonies) were given a flight in February. Up to March 7th none showed any signs of dysentery. March 15th four of the 10 that had not been taken out were spotting the hive-entrances and crawling about it, and perhaps a gallon and a half of dead bees were on the cellar-bottom. A week later all 10 of the hives were spotted, and to-day about half of those that were given a flight in February have their hives spotted and the cellar-floor is covered with dead bees, making fully a half bushel from the 36 colonies since Nov. 8th. The tem-

To make cows pay, use Sharples Cream Separators. Book "Business Dairying", & Cat. 212 free. W. Chester, Pa

Belgian Hares
CHEAP.

PEDIGREED AND COMMON STOCK.

Having bought a Job Lot of a neighbor and added to what I had, I must dispose of same to make room for my increase. They are mostly young—3 months and over—with a few bred Does. ALSO

Italian Queens

of last season's rearing, ready as soon as the weather is warm enough to send thru the mail. Write for prices. Address,

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6Atf Mention the American Bee Journal.

perature has not been lower than 45 degrees or more than 48 degrees all winter. The covers are sealed down, bottoms the deep side Danzenbaker in most cases; others have an inch block under them. Most colonies are clustered below the bottom-bars, some being on the floor of the hive, and others hanging out of the entrance, as if preparing to swarm.

I would venture to guess that a pretty good-sized swarm was in the air during the few minutes I was in the cellar. I made a hasty survey of matters, and "closed up," concluding to give them their liberty the first day the weather would permit.

We used the last section of our 1900 crop of honey at dinner to-day. It is a regular dish at our house, and no unpleasant results have come of it as yet.

Success to the American Bee Journal.
Sioux Co., Iowa, April 1. F. W. HALL.

1900 a Dry Year—Prospects Fair.

My bees began carrying in pollen about April 2d. It is cold and windy, and we have just had 4 days of rain, so the bees have not been out.

The wind on March 20th was in the northeast, and it rained a little on that day; old settlers say that is the sign of a wet summer. I hope it is, for 1900 was the driest year I have ever seen. We had plenty of rain in April, 1900, to raise the wells and springs, but did not have any more to amount to anything until March, 1901, and the wells and springs were nearly all dry, but we have plenty of water now.

I hope this season will be a good one, for we have had two poor ones in succession.

JOHN H. KIMBLE.
Sussex Co., N. J., April 8.

Report for Two Years.

This year will be my third one in the bee-business. I started with one colony, and bought four more the following fall, but lost one in wintering. I had an increase of 3 colonies last season. The last of August one of the colonies became queenless, and I bought a new queen from a bee-keeper here, but the bees killed her, so I put a piece of thin wrapping-paper on the top of one of the other colonies, and set the queenless colony on top of it; they made holes thru the paper and are all right.

I have wintered the bees on the summer stands packt in straw, all facing the South. I have not unpackt them yet as it is cold and windy. Every warm day they are out working on apricots and wild flowers. We have a small flower here not more than 3 inches high which blooms about March 1st, and the bees get honey and pollen from the flowers. They grow as thick in some places here as do the wild strawberries in the East.

I secured 60 pounds of honey from one colony the first summer, and the second year I got 315 pounds from 4 colonies. This year I have 5 colonies, and the prospects are very good for this season.

MRS. BEN. FERGUSON.
Ford Co., Kans., April 8.

A California Lady Bee-Keeper's Experience—Dark Beeswax.

I have kept bees for the last 5 years, and the first 3 were very good honey-years, but I knew very little about the business. The year 1899 being a very poor year, I rented the bees to a man who claimed to be a scientific bee-keeper, and he divided them as long as there was any thing or any bees to divide. Last year I rented them to two young men, who did the best they could with them, but the honey crop was a total failure, so they could do nothing but build up the colonies. The bees wintered all right, and are doing well. I will attend to them myself this season, hiring help when necessary. I never wear a veil or gloves, and very rarely get stung. I treat them as I do people—never go into their house without rapping, then wait for them to slick up a little before I raise the cover. I then give them a little smoke, but not enough to make them think that their house has turned into a smoke-house.

Some people seem to have a great deal of trouble with dark beeswax. I think the utensil used to melt it in has much to do with it. I have some very dark beeswax made from starters. I had about 200 frames containing starters about 2 inches wide; I wanted full sheets of foundation, so last fall I exchanged them. I put the starters into an iron kettle to

Red Clover Queens

LONG-TONGUED BEES ARE DEMANDED NOW.

ONE Untested Italian Queen FREE as a Premium for sending us TWO new subscribers to the American Bee Journal for one year (with $2); or, one Tested Queen free as a premium for sending us FOUR new subscribers (with $4.00.)

We have arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us the coming season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

Orders for these fine, "long-reach" queens will be filled in rotation—"first come, first served"—beginning about June 10th. It is expected that orders can be filled quite promptly, as a large number of nuclei will be run. All queens will be guaranteed to arrive in good condition, and all will be clipt, unless otherwise ordered.

CASH PRICES of these fine queens will be as follows: Untested, $1.00 each; Tested, $2.00 each. Send all orders to

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APIARY OF MRS. ARTIE BOWEN, OF MERCED CO., CALIF.

melt, and they were nice and yellow before I put them in, but after they were melted into wax I never saw such black stuff. A bee-keeper told me that he thought it was the iron kettle that did it.

My apiary is in the orchard. I had 110 colonies, and the apricot trees were in full bloom when the picture shown herewith was taken. The people in the picture are the two young men who had rented the apiary, and a young woman who was working for us.

I don't care for long-tongued bees. I have no use for long-tongued women, and I am afraid they might be like them—using their tongues where they have no business to.

Fruit-trees are in full bloom, and the bees are humming.

I like the American Bee Journal very much.

(MRS.) ARTIE BOWEN.

Merced Co., Calif., March 5.

Poor Locality for Bees.

This is a bad country for bees; most of them have starved to death this winter. I will have to feed mine as soon as the weather is warm enough. I have not lost any colonies yet. It is snowing every day. JOHN BERNT.

Polk Co., Nebr., April 2.

Feeding Sugar-Candy to Bees.

On page 201 Dr. Miller asks for the experience of those who have fed candy. One winter I fed a number of colonies with candy made as per directions given in "ABC of Bee-Culture," and I am sorry to say that it was a dead failure. The candy seemed to be all right, but the bees were all dead before they were put out in the spring, with the exception of 2 or 3 colonies, and they died a few days after they were put outdoors. One such experience is enough for me. I have a suspicion that the cheapest and best way to feed in winter is to give them comb honey—a cheap grade would do, of course. I fed it to some of my colonies during the past winter.

Hennepin Co., Minn. WM. RUSSELL.

Taxing Bees in Iowa.

I notice on page 211 you discuss the question of taxing bees. In this State the list of exemptions includes 10 colonies of bees, all poultry, and various other articles, and then says that all other personal property is taxable, which includes all bees over 10 colonies. Now, right there is the injustice—exempting 10 colonies. How would it seem to exempt 10 acres of land, 10 cows, 10 hogs, etc., all thru the list of personal property? Isn't it the same principle? Why should'nt I pay taxes on 10 colonies as well as my neighbor on 40 or 50? And don't you suppose 10 will be about the usual number owned by the average run of bee-keepers in February or March, which is the time our assessor generally gets around? And who will pay under this law? Only those who have workt up so large a business that the public, including the assessor, would *know*

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A sample of either, by mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. The cans are boxt.

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We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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they had a large number of bees. Then there is poultry—all poultry is exempt from taxation in Iowa, and there are probably a hundred dollars invested in poultry to one dollar in bees; and no doubt the annual cash returns from poultry are as much, or more, in favor of the feathered tribe. So if bees are taxt as property having a fixt value, and are a more or less certain source of income, then by all means list poultry also.

It is evident that there are reasons for exempting property from taxation—two very good ones are, to favor the poorer classes, and to encourage some industry that is a benefit to the country in general. Now, why have not bees the very best claims on both of these grounds? They are the ideal property for a poor man—not that he can make money rapidly and easily therewith, but they require little capital for a start, many successful beemen starting on nothing, even catching their first swarms as strays. And as it is generally admitted that bees are necessary to the cross-fertilizing of our fruits and flowers, and thereby a great benefit to the people in general, we can claim exemption on that ground, if any class of property can.

We are not claiming that bees are not taxable, for we believe they are in this State, but we think they ought to be exempted for the above reasons.

Personally, I have never paid any tax on bees, as our assessor never askt me to list my bees but once, and then I told him (and I think truly) that I did not know how many colonies I had at that time, as it was in February or March. I told him if he would call in May or June I could tell him how many I had. So he said he would let it go. I have no idea that there ever was a dollar tax paid on bees in this county. E. S. MILES.

Crawford Co., Iowa.

Weather Too Bad to Put Bees Out.

I put 5 colonies of bees into winter quarters, but lost one. I wish that we might have pleasanter weather so that I could put them out. It rains or snows nearly every day, but we are hoping that it will soon change.

Last season was a very poor one in this vicinity. The bees did not do much of anything, and the colony that I lost was a young swarm which stored very little honey, so I gave it 4 combs of sealed honey and thought that would bring it thru the winter all right, but about a month ago I found it dead. There was a little honey left in the hive, and also some sealed brood, so I do not know what was the trouble. DAVID STUCKY.

Herkimer Co., N. Y., April 8.

CONVENTION NOTICE.

Illinois.—The spring meeting of the eastern division of the Northern Illinois Bee-Keepers' Association will be held at the residence of B. Kennedy, 7 miles southeast of Rockford, Ill., on Rural Route No. 5, and 3 miles northeast of New Milford, Ill., Tuesday, May 21, 1901. All interested in bees are cordially invited to attend.

B. KENNEDY, Sec.

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Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Apr. 18.—Choice grades of white comb honey sell at 16c, and there is no surplus in sight. Other grades of comb sell fairly well at the following prices: No. 1 grades of white, 14@15c; off grades, 13c; light amber, 12c; dark amber, 10@11c; buckwheat and other dark combs, 9@10c; candied and mixt colors, 7@9c. Extracted is dull, and prices very weak, with the exception of some fancy linden and clover grades, which is quotable at 7@8c; ambers, 6@7c; dark and buckwheat, 5@6c. Beeswax, 30c.

R. A. BURNETT & Co.

BUFFALO, Apr. 18—Fancy white comb, 15@16c; poor, dark, etc., 8@13c, as to grade. Demand good on fancy. Beeswax, 20@28c, as to grade.

BATTERSON & Co.

OMAHA, Mar. 30.—Demand fair; stocks light. Fancy white comb, 15@16c. Extracted moving slowly at 7@8c for white. We do not look for any particular change for the balance of the season, as present supply will just about be sufficient to supply the trade until new crop gets into market. PEYCKE BROS.

DETROIT, Apr. 18—Fancy white comb, 14@15c; No. 1, 13@14c; dark and amber, 10@12c. Extracted, white, 6½@7c; amber and dark, 5@6c. Beeswax, 27@28c. M. H. HUNT & SON.

NEW YORK, March 19.—Our market is virtually bare of comb honey, and there is a fair demand for all grades. Fancy white is still selling readily at from 15@16c; No. 1 white at from 13@14c; amber at from 12@13c; buckwheat, 10@11c, according to quality and style of package.

As to extracted, the market is quiet and inactive, and a certain amount will have to be carried over again. Prices are declining somewhat, and if the honey is not moved in large lots, concessions will have to be made. We quote: California white, 7@7½c; light amber, 6½@7c; other grades and Southern, 6@6½c per gallon. Beeswax—very firm at 28@28½c, and for exceptionally fine yellow, 29c.

HILDRETH & SEGELKEN.

CINCINNATI, Apr. 18.—The demand for comb honey is nearly over. The stock of it also well cleaned up. Fancy white brings 16 cents. Extracted is in fair demand; dark sells for 5½c; better grades bring 6@7½c; fancy white clover from 8½@9c. C. H. W. WEBER.

KANSAS CITY, Apr. 18.—There is very little honey offered, and the demand is steady, selling from $3.50@$3.90 per case, fancy white; no amber on the market at this time. Extracted, no change; white, from 8@9c; amber, there is a little on this market that could be sold from 7½@8½c. Beeswax scarce and demand good, at 25@28c. W. R. CROMWELL PRODUCE CO.,

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ALBANY, N. Y., Apr. 19.—Honey market quiet. Light supply and light demand now. The stock is well cleaned out, so will be no old honey to carry over this season. H. R. WRIGHT.

BOSTON, April 4.—Fancy No. 1 white in cartons, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. Absolutely no call for dark honey this year. Extracted, white, 8@8½c; light amber, 7½@8c. Beeswax, 27c.

BLAKE, SCOTT & LEE.

SAN FRANCISCO, April 3.—White comb 12@13 cents; amber, 9@11c; dark, 6@8 cents. Extracted, white, 6@6½c; light amber, 4½@5c; amber, 4@4½c. Beeswax, 26@28c.

Despite general expectations and contrary to experience of previous years, new honey is reported on market. For some new amber extracted from Ventura county 6 cents is askt, but this is above the views of buyers. Old is still offering in moderate quantity, both comb and extracted, mostly amber.

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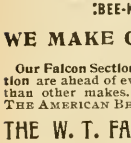

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White Clover	90c	1.70	4.00	7.50
Alfalfa Clover	[illegible]	1.40	3.25	6.00
Japanese Buckwheat	5 [illegible]	.50	1.00	1.60

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N. B.—It seems as if it ought not to be necessary to say that no one but a queen-breeder or a large honey-producer should order these high-priced queens; but it is a fact according to our experience that beginners with only a few colonies will order our highest priced imported queens. Such bee-keepers have no more use for such queens than a pig has for a wheel-barrow.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., MAY 2, 1901.

FORTY-FIRST YEAR
No. 18.

WEEKLY

MAY

BY EUGENE SECOR.

One day
I past an orchard where the bloom
  Seemed coaxing honey-bees
To stop and sip its tempting wine
  And pack their basket-knees
With pollen-bread on which to dine—
  Both laden with perfume—
    And it was May.

In May
The dandelions ply their art
  To spread a honey-feast;
They fling their yellow banners out
  Against the beaming East
As if to say to bees about,
  "We yield our inmost heart—
    Kiss us, we pray."

In May
The birds are busy building nests
  Or guarding pregnant eggs;
King Corn, tho buried out of sight,
  Is soon upon his legs
To prove the crown is placed aright—
  For all the loyal West's
    Corn-men so say.

Survey
The clover-fields, the grazing herds,
  The dogwood in full flower,
The trees that stretch an inch each day
  With quick'ning shine and shower.
Survey, and tell me, need I say
  In stronger, ampler words,
    That this is May?

THE AMERICAN BEE JOURNAL

PUBLISHT WEEKLY BY

GEORGE W. YORK & CO.

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The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50c a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec01" on your label shows that it is paid to the end of December, 1901.

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Advertising Rates will be given upon application.

Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England: — Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

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To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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5. Coggshall Bee-Brush and Carlin Comb-Foundation Cutter.
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The foregoing offers will not appear again. They will be in force only during May and June—this month and next.

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., MAY 2, 1901. No. 18.

Editorial.

Next National Convention.—It seems from the following, sent us by Secretary Mason, the next meeting of the National Bee-Keepers' Association will be held at Buffalo, N. Y., Sept. 10, 11 and 12, 1901:

EDITOR AMERICAN BEE JOURNAL:

Many inquiries have been received by the Executive Committee of the National Bee-Keepers' Association regarding the time and place for holding the next convention. The reply has generally been that Buffalo, N. Y., would be the place of meeting; but until this morning (April 17th) the date of meeting had not been settled upon.

On March 2d the Secretary of the American Pomological Society wrote President Root in part as follows:

"As bee-keepers and fruit-growers have many interests in common which could be considered and discust with mutual profit, our Executive Committee has instructed me to extend to your Association a cordial invitation to hold a joint meeting at some time during our session, the exact time to be decided later by correspondence.

"At this meeting we would suggest that the subjects of discussion center round the general topic of the mutual relations of bee-keeping and fruit-growing.....which can be briefly treated by speakers selected in advance from among our prominent bee-men and fruit-men.....in order that a better understanding of these mutual relations may be reacht. .....It has been suggested that a considerable portion of fruit-growers do not yet appreciate the preponderance of the benefit derived. It is felt that a full public discussion of the subject would, therefore, result in good to both industries."

Realizing, as the Executive Committee did, that this was a golden opportunity for presenting the bee-keepers' side of the subject to the representative men of the fruit-growing industry, the invitation of the Pomological Society was at once accepted by the committee in behalf of the Association.

We have had to delay the fixing of the date for our convention until the Pomological Society had fixt their time of meeting. Our convention will be held on the 10th, 11th, and 12th of September next, commencing on Tuesday evening the 10th.

We were at first undecided as to place of meeting, hoping that the G. A. R. would meet at Denver, Colo., but when it decided to meet at Cleveland, and we received the invitation of the Pomological Society, we felt that we ought not to miss such a splendid chance to enlighten some of them on the relation of bees to horticulture, and, by meeting at Buffalo, the York State and Canadian bee-keepers would be within easy reach of the place of meeting; so we at once fixt on Buffalo as the most desirable place.

It has been decided not to have any papers or essays, but to rely wholly on the question-box to bring out the best and most important matters for discussion; so any one not being able to be at the convention, having any question or questions that he may wish to have discust, can send them to the Secretary at any time.

The committee has taken the liberty to request the Secretary of the Ontario Bee-Keepers' Association to ask the members of that association who may attend the meeting at Buffalo, to bring their badges with them and wear them at our sessions, whether they are members of our Association or not, so that we may feel more as one, and know who our progressive neighbors are.

Information regarding place of meeting, entertainment, and railroad rates, will be given as soon as decided upon. Don't be in a hurry about securing a sleeping-place during the convention. There is plenty of time, and, later on, better rates can be secured; but if you are in a hurry, write to the Young Men's Christian Association, and don't be bled by "sharks." A. B. MASON, *Sec.*

Sta. B, Toledo, Ohio.

We trust that all who can possibly arrange to do so will endeavor to be at the Buffalo convention next September. It ought to be a bigger and better one than was the Chicago convention last August—tho, of course, that could hardly be expected even at Buffalo! (Now, see Mr. Hershiser buckle down to the job of trying to outdo Chicago.)

"There is Always Plenty of honey," said a honey commission dealer to us several years ago. That seemed a strange remark to make, especially in view of what have commonly been termed "poor honey-years," which have been somewhat frequent in appearance during the past ten or fifteen years. But Mr. Dealer knew what he was talking about.

The year 1900 was said by some, if not by the "oldest (bee-keeping) inhabitant," to have been the poorest for honey in thirty years. And yet what do we find? Why, more honey in the hands of dealers to be carried over, we believe, than for a number of years past. One dealer, about two months ago, had eight or ten car-loads of white extracted honey on hand yet. We know some others who also have quite a quantity left on their hands. Likely all of them will have to wait until next fall before it can be moved off; and then, if there should be a large new crop, it will have to be sold at a loss.

"There is always plenty of honey" comes pretty near being the truth. But it would not be true if there were anything like a more even distribution of the honey crop each year. Why, there wouldn't begin to be enough to go half way around if that were the case. The great trouble is, so much of it is shipt to the large centers, thus glutting those markets, causing a demoralization of prices, while many near-by, tho smaller, markets, are entirely bare of honey. And often in such local markets the very highest prices are realized.

In a city of about 2,500 population, not quite a hundred miles away from Chicago, a leading grocer agreed to take as high as five car-loads of strawberries grown within 15 miles of his store, at 10 cents a quart! Think of it! And yet, in Chicago strawberries are often sold at four quarts for 25 cents! Why is it? Simply because nearly every strawberry-grower in the country thinks he must dump his crop on the Chicago market. It is all wrong. And it is the same way with honey.

Far better prices would be secured if much of the stuff that is sent to Chicago, or to other large centers, were sold nearer home. This is a subject worth careful investigation.

Short-Tubed Clover is nowadays discust along with long-tongued bees, and it is reasonable to believe that the seed saved from the first crop of red clover will have in it a larger percent of the short-tubed kind than that from the second crop. A little explanation will help to an understanding. At present it is only the second crop of red clover that is a seed crop. That is because the fertilization of the blossoms is effected almost entirely by bumble-bees, and at the time of the first crop there are not enough bumble-bees to fertilize more than a very small number of blossoms. For unlike hive-bees, a single bumble-bee starts a nest in spring, and only later on do bumble-bees appear in numbers.

So it happens that the proportion of hive-bees to bumble-bees found working on the first crop should be many times greater than on the second. It will be only the shorter-tubed kind that the hive-bees will visit, of course, and the seed from that will be likely to reproduce itself. It will be easily understood that at first only a small amount of seed would be secured on any given surface, but the proportion ought rapidly to increase from year to year. It may be well to speculate a little on what might be the outcome. Suppose we take a plot of ground from which a bushel of seed of the second crop might be secured. Save the seed from the first crop, which may be a pint or less. But in that pint half the seed may be of the short-tubed kind, whereas in the second crop there would not be one in a thousand. Now sow this pint the next year in a plot by itself. It is reasonable to expect that at least half the plants will have short tubes, and so half the seed will be of the improved kind. Continuing in this way, it would be not a matter of many years to have seed in unlimited quantity, half of which would be of the short-tubed kind.

But another factor comes into the problem, which greatly hastens the result. As soon as the amount of ground covered by clover from this half-and-half seed assumes tolerable proportions, the seed fertilized by bumble-bees

will no longer hold the same proportion as at first. For the number of bumble-bees is a limited quantity, and they can only fertilize a fixt number of flowers. For the sake of illustration suppose there are enough bumble-bees to produce a bushel of seed within a given area. A small field will suffice them, and if the field be ten times as large they can fertilize no more seed. Now suppose enough of our half-and-half seed is sown in that area to produce two bushels of first-crop seed. It will continue to be half-and-half just so long as we do not go beyond that amount. But whenever we go beyond the crop of two bushels, then not only a proportion of the increase, but *all* the increase should be short-tubed.

If a peck of seed is sown to the acre, and the crop harvested is three bushels to the acre, then there is a twelve-fold increase. So when our bushel of half-and-half seed produces a crop of 12 bushels, 11 bushels of it ought to be of the short-tubed kind, and this 12 bushels sown ought to produce 144 bushels having only one bushel of long-tubed seed in it, or 99.3 percent pure. "It is the first step that costs," and in this case the difficult thing is to get the first bushel of half-and-half seed. After that the way is easy. Indeed the way ought not be very hard after the first pound is secured.

Of course, all this is only speculative, and like many another thing in bee-keeping, may not "pan out" at all as anticipated; but the great importance of the matter warrants some speculation, and this may serve at least to arrest the thought of some wide-awake bee-keeping farmer, and to secure from him some effort toward the desired end.

Loading Combs for Wagon-Hauling—The right way to load combs, either brood-combs or sections, has been a matter of some difference of opinion. When loaded on cars, all seem to agree that the edges of the combs should point toward the engine, as the bumping is from front or rear, and not sidewise. Opinion is divided as to loading on a wagon. Perhaps all will agree that on a smooth road on a *very* steep hill the loading should be the same as on a car, but ordinary roads are not so very smooth, and the hills are not so very steep. The editor of the Bee-Keepers' Review champions loading the same as on a car, and gives reasons why he thinks that ought to be the better way. A few have given the result of actual experiment, one of which is given in a Stray Straw in Gleanings in Bee-Culture as follows:

March 25th the roads were muddy and rough. I drove down town, putting in the wagon two empty supers, setting them on one side. The front one ran across the wagon and the other lengthwise. The one running lengthwise fell down. Then I put the front one lengthwise and the other crosswise. As often as they fell I set them up again, constantly changing. Out of 13 times the lengthwise super fell first every time but one. That was going down a hill, but going down the steepest hill the lengthwise super fell and the other stood its ground. If I had been hauling combs on that trip, don't you believe they should have been loaded crosswise? Now some of you report how the same thing works on *your* road.—[This is an interesting and valuable experiment. It is so easily tried that wonder none of us had thought of it before. would suggest that those of our readers who have "to drive to town" pretty often over umpy roads, try the same experiment and report. From the results above given it is very clear that the edges of the combs should point toward the wheels and not toward the horse.—EDITOR.]

Bees Attack Mountain-Climbers.—A correspondent from Honolulu, Sandwich Islands, reported an occurrence in that country in which a mountain-climbing party was attackt by a colony of wild bees, and came near losing their lives. They had climbed Konahuahui, the highest peak near the city, and decided to descend on the Nuanu Valley side, which had been considered impossible. They scrambled down precipitous cliffs 75 feet high, clinging to the rocks with hands and feet. When part way down they were attackt by the bees, which stung them while they were helpless to ward them off. For nearly a mile the bees followed them until they reacht a point where they were safe.

Weekly Budget.

GOOD ADVICE [For Missouri?].

"Pray, what is good for chappy cheeks?"
Wrote Molly to the editor,
And in due time—about two weeks—
She got the answer written for.
To other ears by chance it leaks,
A little birdie told, perhaps;
Thus: "If you wish not chappy cheeks,
You must avoid the cheeky chaps."
—WILL WARD MITCUELL.

MR. JOHN ZWAHLEN, of Emery Co., Utah, gives the following report for 1900, in the Rocky Mountain Bee Journal, being an average of 292 pounds of extracted honey per colony:

"I see it stated that Oliver Foster produced 86,000 pounds of honey last year from 500 colonies. I have done better than that. I secured 19,000 pounds from 65 colonies; and Christian Ottisen, 23 miles farther north, in this county, did even better, but I can not say just how much."

"EDITOR MITCHELL, who undertook part of the editorship of this paper last autumn, has been compelled to abandon the undertaking. His eyes for the past year or two have been of more or less trouble, and of consequent great distress—to one who has to use his eyes almost continually, as does a printer and editor."

This paragraph is taken from the April Progressive Bee-Keeper. We regret very much to learn that Mr. Mitchell's affliction has compelled him to relinquish some of his undertakings, and trust that the enforced rest and recuperation may soon bring him out all right.

PRESIDENT E. S. LOVESY, of the Utah Bee-Keepers' Association, writing us from Salt Lake Co., March 12th, had this to say:

"FRIEND YORK:—Spring appears to be with us again. The bees, the trees, and the birds, in fact all Nature seems to be putting on new life. Our bees were carrying in pollen March 1st—something they don't often do so early. And we are having a great deal of snow and rain, which is pretty generally distributed over the State, thus insuring a good supply of irrigating water, which in turn will insure good crops and a good honey-flow. If the weather keeps mild we may expect to see our bees and bee-keepers 'in clover' once again. The bees that went into winter quarters in good condition appear to have wintered fairly well, while a few smothered for lack of ventilation. The smelter smoke here in Salt Lake County has been the cause of our principal losses."

Again on April 14th Mr. Lovesy wrote us as follows:

"The prospects are excellent in Utah this season for a good honey crop. While the bees are in fairly good condition, barring any accident that we know not of, they will give a good account of themselves."

EDITOR LEAHY, of the Progressive Bee-Keeper, it seems, was also somewhat shockt by the "rhythmical break" made by Stenog in Gleanings in Bee-Culture, when he tried to make "harm" rhyme with "barn." After copying the questionable stanza (see page 244), Mr. Leahy follows with this comment:

It's rather a stretch of poetic license, and tho we are quite willing the price of clover be brought down, we are not willing to see the harmony of "harm" and "barn." The following from the pencil of a despondent Ohio youth has more jingle and rhyme, and is more to the point:

"O, bury me deep, deep in the ground,
Where the humming-bird hums,
And the bumble-bee bums,
And the straddle-bug straddles around."

We must confess that Mr. Leahy's cultivated choice of poetry does have a clear-cut kind of jingle that no one can mistake or fail to appreciate. In the "hum" and the "bum" of the thing there is no humbug poetry, even if there is a straddle-bug that "straddles around" with so much importance.

MR. W. F. ORDETX, of Cuba, under date of Jan. 22d, says that the present season has been the poorest ever known in that section, and concludes the information with this paragraph: "I started with 8 colonies in December, and now have 20. They will soon be ready to divide again." No doubt that report is rather discouraging to one of Mr. Ordetx's enthusiasm; but he would be surprised to learn how very little sympathy it will elicit in these United States of America, where almost any of us should consider ourselves very fortunate to accomplish in two whole years what he has done in two months or less. That projected second division of colonies so late in the season may prove a hazardous procedure.—American Bee-Keeper.

MR. A. E. WILLCUTT, of Hampshire Co., Mass., sent us a clipping some time ago telling about a "happenstance" down in Bangor, Maine, last fall. It seems when cold weather set in a fire was kindled in a fireplace in one of the houses in that city, that had not been occupied for some time. When the fire had been burning for about half an hour, the man of the house, upon coming into the room, found the floor covered with a sticky substance, more of which was running out of the fireplace. It was found that a swarm of bees had taken up their abode in the long unused chimney, and had there stored a large quantity of honey. The heat from the fire caused it to run down in a stream into the room, covering the carpet. The householder said he got $4 worth of honey and lost $60 worth of carpet. He probably did not feel like singing that part of the chorus of the song, "Busy, Buzzing Bees," where it refers to "honey everywhere."

Contributed Articles.

No. 3.—Drone-Bees and Their Utility.

Can We, and Shall We, Control their Production?

BY C. P. DADANT.

SINCE writing the two previous articles on this subject, I have met with some private arguments. I have been told that it is a mistake to try to change Nature, that even if I can reasonably argue that it is best to prevent the rearing of drones in most circumstances, it is an error to change natural conditions. I can not agree with this.

When we breed any kind of animals in domesticity, their natural conditions are already changed. No one thinks of trying to prevent the free breeding of wild fowls in the proportions which Nature has dictated. But where is the breeder of domestic fowls who will allow all the roosters to live? Where is the farmer who will keep all his male calves as bulls? And do we not succeed best by artificial selection? See with what care the farmer's wife picks out the finest roosters for the following season's use. And if she were careless, and killed or sent to market the finest of them, would you think she stood any chance of improving the breed? What is done with chickens or with cattle—can it not be done with our bees, in the measure of our powers? It is true that we can not absolutely control the reproduction, owing to the peculiar habits of the bees in their mating, but we can, in a great measure, direct the greater or less rearing of good or bad stock, and if we would succeed, we must do all that can possibly be done.

In natural conditions, a colony may be several miles from other bees and probably requires all the drones that it may produce. On the other hand, in domesticity, we may keep a hundred or more colonies in one spot. In that case, we have, if we leave it to the nature of the bees, a hundred or more times as many drones as will be needed for all the young queens that we may rear. We are therefore feeding, if we leave the bees alone, hundreds of thousands of drones that cost both food and heat to be reared, and whose problematic usefulness is in the possibility of their keeping the brood warm for a few days after the colony swarms. Some of these drones are certainly more desirable than others, for our colonies are not all equal in honey-production. In an apiary of one hundred colonies, we may have half a dozen colonies which will yield twice or three times as much honey as the average of the entire apiary, and at the same time we have a few colonies that will produce little if any more than enough for their own consumption. Not only must our female reproducers—the queens—be reared from some of those best colonies, but if we would encourage in all possible ways the breeding of the best, we must also try to breed the greatest number of drones from some of those preferable colonies. Yet, to avoid in-and-in breeding, which Nature so abhors, we should not breed both queens and drones from the same colonies.

These propositions being well establisht, it remains for us to decide not only how to get the greatest possible number of drones from the best colonies, but also how to prevent the fertilization of the queens by inferior drones.

Let me here open a parenthesis. I see that the question of the fertilization of queens in confinement is again agitated. If this were a success the fertilization of queens would be comparatively easy. But these things have been tried many times before, many sensible men have shouted "Victory!" only to find a little later on that they had allowed themselves to be deceived by appearances. Time will settle the question, but even a satisfactory solution would not affect the question of producing valuable drones and doing away with the valueless ones. I will now return to the matter on hand.

To secure a great number of drones from a colony is not difficult, especially if the queen is prolific. We need but to place drone-combs, one or two, in the center of the brood-nest. Altho the queen dislikes to lay eggs in these cells, until after she has bred a large number of workers, the situation of these combs will induce her to lay in them earlier in the season than she would have done otherwise, and we will readily secure a large number of valuable drones early. As to the hive from which no reproduction is desirable, we must confine the drones to the hive, or catch them with a drone-trap as they emerge on sunny days, or behead them in the cells before they hatch, or simply prevent their being produced by removing the drone-comb before the laying has begun, and replacing it with worker-combs.

The first of these methods is certainly the worst. Many apiarists use the well-known drone-guard in front of the hive. This is a sort of "yard" made of perforated zinc placed at the entrance, and thru which the worker-bees alone can pass. The drones and the queen are compelled to stay in. It is also used to prevent swarming. Tho it answers the purpose, it is not practical because when the drones are induced to take flight by the warmth of the sun, they congregate within this guard and are in the way of the bees. Some people open the guard to let the drones out, and close it again to keep them from coming back. It would serve the purpose in compelling them to stay on the outside and starve if they were all to issue at the same time, but they are going and coming, and no satisfaction can be had out of such a method. The drone-trap is much better, for as the drones get into it they are caught and can not return, and are out of the way, but it must be attended to and emptied out regularly or they will die there and create a pestilence.

The third method, of beheading the sealed drones with a honey-knife, before they hatch, is efficient, but like the other two it has the very bad fault of having allowed the expense of rearing those drones almost to the perfect insect, without any returns. Then the comb in which they have been reared is very soon again filled with eggs, and the work must be done again. The last and only practical method of getting rid of the drones satisfactorily is to prevent their being reared, by removing the drone-comb before any drone-eggs are laid, very early in the spring, and replacing this comb with worker-comb, taken from deceast colonies or from extracting supers. This replacing of comb is a necessity, for the same reason that has caused the bees to build the drone-comb in the first place will cause them to rebuild the same kind in the same spot, if they are allowed to do so. But it is useless to expect to be able to remove every cell of drone-comb. In nearly every hive there are quite a number of little patches of drone-cells scattered here and there, and many of these pass unnoticed even on the closest examination, unless they are already full of brood, in which case the peculiar rounding shape of the capping of the drones will make them noticeable. But the production of a few drones in any hive is not objectionable. It is the pieces of six or eight inches square that give us the hosts of useless males, since the comb contains 36 of them to the square inch.

In my estimation, the prevention of drone-rearing is of importance especially because of the cost of breeding them. I have always been of the opinion that they are nearly as expensive to rear as they are to keep after they have hatcht. Yet, they certainly consume considerable honey after they have emerged from their cell, but I would be inclined to think that nearly half of the total cost of their support during their short life is to be reckoned while they are in the cell. So it seems to me of the greatest importance, on this score alone, to prevent their being hatcht.

I am told that the bees will not accept the removal of their drone-comb, and that they will cut down worker-cells, to change them to drone-comb, when all the drone-comb has been removed. This I disbelieve, as it is contrary to my experience. Tho they will rebuild drone-comb where drone-comb has been removed, they do not seem to feel the need of it enough to tear down good worker-comb. In order to convince me that this has ever been done by bees, it would require a very thoro experiment, made on old combs that would not sag under the weight of honey. I believe that what has led some bee-keepers to this opinion is the sagging and consequent elongating of cells by heat. This sometimes happens when the comb is new and heavily loaded, or by the use of defective foundation, which by stretching has become large enough for drones to hatch in it. But I doubt that bees have ever seen fit to tear down worker-comb to build drone-comb in its place. If they were prone to do so, they very probably would be inclined to do the reverse where too much drone-comb existed, and in the case of the Drory experiment, mentioned by me in a former article, when a colony had been furnisht with nothing but drone-comb, they certainly would have torn down some of this comb to replace it with worker-comb, while

they only reduced the size of the cells by narrowing them down at the mouth.

But even take it for granted that the bees will insist on having some drone-comb. We have seen elsewhere that the average number of drones produced, ranges, according to some of the most experienced writers, from one-tenth to one-thirtieth. If we can keep the average number of drones produced by our poorest colonies at or below the smallest percentage, and if we can at the same time keep the drones reared by two or three of our best colonies at the very highest possible number, we already will have achieved a great deal towards securing improved matings and a greater production of honey.

Hancock Co., Ill.

Prof. Cook's Review of the "A B C" Book.

BY ERNEST R. ROOT.

IN the columns of the American Bee Journal Prof. Cook has given a review of "Dadant's Langstroth" and "Cowan's Honey-Bee," and now follows with a review of the "A B C of Bee-Culture." In his usual kindly manner he says at the outset, "Without doubt this book has exerted a wider influence upon the bee-keeping world than any others ever written. Even its rivals can only be joyous in its extensive sale, as they know that, wherever it goes, it goes to help and bless." Coming as those words do from one who is himself the author and publisher of a leading rival work, the publishers of the "A B C" would be hardly human if they did not feel a warming of the heart at their utterance.

He then proceeds to point out passages in which he thinks he has reason to believe there is error, altho admitting the possibility that in some cases he may be wrong. Some of these may properly deserve consideration and correction: in others there may be occasion to take exception to Prof. Cook's exceptions.

First, it is proper to call attention to the fact that the criticisms are not based on the edition issued last Jannary, as one would suppose, but on the *old* edition—the one put out nearly two years ago. As it is, much that Prof. Cook criticises is not in the new book at all, such matter having been re-written or stricken out altogether.

As to the first error pointed out, there is no error in the book, but the error consists in very careless reading on the part of the reviewer—a carelessness that is hardly excusable, for one expects extreme carefulness on the part of one who points out the errors of others. The "A B C," page 2, in discussing what is to be done with second swarms that issue, says in effect that they must be watcht, climbed after, and hived. This sentence is *immediately* followed by another which says, "If one thinks this too much trouble, he should prevent having after-swarms as I advise under that head." He ignores the fact that the watching and climbing refers only to swarms that *have* issued, to say nothing of the fact that it would be an impossibility to prevent the issuing of a swarm after the swarm has actually issued. He goes on to give the Heddon as the best method of preventing second swarms. In the edition just out of the press the very next sentence refers to the place where, among other methods of preventing after-swarms, the Heddon plan is given more fully and correctly than it is given by the reviewer. If careless reading is inexcusable on the part of a critic, still less is careless quotation when the exact words are pretended to be given inside quotation-marks. In answer to the question as to what shall be done with a second swarm that has issued, the "A B C" says, "Candidly, I don't know of any better way than," etc. "Candidly, I don't know any better way to prevent second swarms than," etc., is the way Prof. Cook quotes it. We feel sure that he will say there is no sufficient excuse for interjecting the words "to prevent second swarms" in a direct quotation where they were neither written nor thought by the author of the book.

Prof. Cook objects to the statement that alfalfa honey is probably superior in quality to any other. He claims to be something of a judge of honey, and thinks alfalfa no better than clover, linden, sage, and perhaps others. It is a matter, not of judgment, but of taste. The best judge *might* prefer a flavor that no one else would fancy. The criticism, however, is a valid one. In matters which appeal entirely to taste, it is unwise to make sweeping statements.

Speaking of alfalfa the "A B C" says it takes about three years to get it to its best yield. Prof. Cook makes the pleasant correction that in California the maximum yield is often got the very first year in the later cuttings.

The reviewer thinks it is putting it too strong to hint that bees gather from the dry hay. The simple truth is told that "one man reports so much sweet in it that he has seen bees by the thousand working on the dry hay in the spring."

Speaking of this matter, Prof. Cook says, "This is putting it altogether too strong. Still, I do not think that too much can be said in favor of alfalfa, for it is a marvelous crop." The good Professor will probably indulge in a quiet smile when he sees these two sentences side by side: "You are saying altogether too much for alfalfa," and "You can not say too much for alfalfa." Which is one to believe?

Prof. Cook objects to the definition of digestion given by the author, saying, "This is given as a question [what can be meant by that?], but he was not happy in his selection of authority." Not all will agree as to this, seeing the authority selected was no less than the able and careful T. W. Cowan. Prof. Cook teaches that "digestion is rendering the food osmotic."

Our reviewer says "malphygian" should be "malpighian." So it is in the latest edition, and one would hardly suppose an older edition should be the one reviewed. But his correction needs further correction, neither the book nor the critic being right, for "malpighian" should be "Malpighian."

The "A B C" says, "The blacks are also easier to shake off combs in extracting time, and for that reason alone some prefer them, or hybrids, to pure Italians, which can hardly be shaken off." Prof. Cook says, "I have very little trouble to fell at one shake every Italian bee from the comb if the latter fully fills the frame." If Prof. Cook can shake *every* bee from the frame at *one* shake, he will confer a lasting favor on some of the veterans if he will make the process known. In spite of their shaking off so easily, he considers they stick tighter than the blacks, and prefers them on that account, for the best men stick closest to their homes. There are times when one wants bees to stick by their comb, and then he will prefer the tighter grip of the Italians; but at times when one wants bees to shake off, as in the case mentioned, will one not prefer that the bees he is trying to shake off shall shake off rather than stick on?

Prof. Cook says, instead of Mr. Benton spending years in India, he "was in India only a few days." In relation to this point I have a letter from Mr. Benton, who says, "I left Cyprus for India in December, 1880; returned to Cyprus in May of the following year—absent just *five* months." While the statement in the "A B C" was not strictly correct, Prof. Cook is no nearer the truth, for he has gone clear to the other extreme.

He thinks it unfortunate that the "A B C" uses the term "worm" and "grub" as synonymous with larva. That criticism is worth considering, at least so far as to avoid calling a bee a worm during its early life. Whether much more than that could be accomplisht is questionable. To his credit be it said that Prof. Cook is consistent in that he does not speak of wax-worms, he calls them larvæ or caterpillars. It is feared that, if a bee-keeper were to say that caterpillars had eaten up his combs, he might be laught at. It is very likely, too, that for many years to come good scholars will say that wormy apples have worms in them. Moreover, when no entomologists are around, an insect-larva is a worm, for so the dictionary says. So is a larva of any insect a grub, by the same authority.

Instead of pollen and honey partially digested being fed to larvæ, Prof. Cook says it is pollen perfectly digested, with or without the addition of honey. When doctors disagree, who shall decide?

Prof. Cook objects to calling "viper's bugloss" blue thistle. He says it belongs to the borage family, is no thistle at all, and is like borage in being no serious pest—all of which he should have noticed is already told in "A B C." But blue thistle is one of its popular names, so given in the dictionary.

He thinks drones from laying-workers are as large as any, and it is likely that is true when they are reared in drone-cells.

"It is very doubtful indeed that unimpregnated eggs will ever produce workers," says the reviewer. It is not said in "A B C" that they ever will.

He thinks the word fecundate or impregnate should be used rather than fertilize. According to the dictionary, either is right.

Referring to feeding at night, Prof. Cook says, "Our author recommends this night work to prevent robbing." If he will read *carefully*, he will see that it is not recom-

APIARY OF FRANCES ELLEN WHEELER, OF CLINTON COUNTY, N. Y. (*Courtesy Reliable Poultry Journal.*)

mended, only reported as being accomplisht, and that feeding *toward* night is recommended.

Prof. Cook believes the "A B C" wrong in teaching that honey from apple-bloom has a strong, rank taste like that from cherry-blossoms. He may be right; but this, like some other points to which he refers, was corrected in the edition just out.

In conclusion, we fear that Prof. Cook, overburdened with work like some of the rest of us, has not taken the pains to ascertain whether he himself is always correct upon all points. He is a pleasant writer—one whom the fraternity regards as authority; and whatever else we may say of him, he is actuated by the kindest of motives—a spirit that esteems others better than one's self.—Gleanings in Bee-Culture.

Advantages of Bee-Keeping for Women.

BY FRANCES ELLEN WHEELER.

IN the effort to encourage and lead women into rural occupations, there is a tendency to extravagantly exploit the advantages and minimize the difficulties; that is misleading and unfair. This is especially true regarding apiculture. Probably no industry has been more frequently and enthusiastically recommended to our sex than the care of bees. Certainly no outdoor work, in some respects, is so well adapted to our general make-up, or more thoroly fascinating and congenial. Thus far, our advisers are correct. Their mistakes arise from conveying to the novice an impression that the labor involved is of a light, superficial character, and that the profits are an assured fact, and to be confidently reckoned on. Some writers go still further, and state how many colonies the average woman can take care of alone, for an entire season, and what the returns will be for each colony.

Statistics look well on paper. Any one contemplating a new employment would feel better to know at the start just how much and how hard they must work, and what they will make at it. Some people are loath to undertake this enterprise unless they see in black and white the financial side of the question; which would be perfectly reasonable could the figures be relied upon. But in point of fact, there is scarcely any occupation where the unexpected is sure to happen, and the "unknown quantity" is so often to be reckoned with, as it is in an apiary; both as regards the labor involved and the profits received.

A little common-sense thought on the subject will show very plainly that no two women will do the same amount of work in an apiary (any more than they will anywhere else), or obtain the same results. And that in our country, where the climate and the local flora are so varied, the quality and quantity in the crop must also vary. Still more important, the home markets range in prices according to locality for comb honey, all the way from 7 to 20 cents per pound; which affords quite a margin for speculation on returns. Moreover, is it fair to exact from this business what is not exacted from any other?

That an immense number of successful apiaries are scattered thruout our country is proof that bee-keeping pays. How near the "top-notch" can be reacht, each individual must demonstrate by practical experience. A good instruction book, a periodical, and a few colonies, at the start, will speedily tell the tale as to qualifications.

After a few experiences alone in the yard, our novice may decide (as I did) that it pays best, in the long run, to have a good, strong helper, and that to secure this when needed, some other industry must he combined with the apiary, which will give full occupation to both, and relieve the woman of the heavy parts; affording her leisure to oversee the important details, and attend carefully to her market.

Again, tho we have sections where the climate admits of an apiary being workt almost the entire year, it is not so in our northern and middle States. Also, our pasturage is such that there are many localities where apiaries of 80 to 100 colonies only can be workt, year in and year out, to good advantage. Yards of this size will not, of course, furnish an income sufficient for a comfortable living; but, with a comparatively small outlay of time and money, they will add very materially to it.

Something might also be considered of our returns which are not reckoned in dollars and cents. I refer to the growth in physical and moral health gained by the pure air and loveliness about us; the development of spiritual and intellectual perceptions; and, above all, the sense of helpfulness and fellowship with these wonderful little creatures; and commendation,

"Whatsoever thing thou doest,
To the least of Mine and lowest,
That thou doest unto Me."

Clinton Co., N. Y.

Something More About Bees Being Necessary to Pollenize Fruit-Tree Bloom.

BY THADDEUS SMITH.

THE advocates of the theory that bees are necessary for the complete pollenization of the bloom of fruit-trees lay great stress upon the necessity of cross-pollenizing and seem to think that bees are the only agents to accomplish this. By cross-pollenization is meant that there are some varieties of fruit-bloom deficient in pollen, and the pollen necessary to fructify them must come from some other variety of the same fruit that produces more pollen. That there

are a few varieties of fruit deficient in pollen, is well known to all intelligent fruit growers, and they know equally as well that it is not necessary to have bees to accomplish this cross-pollenization, and do not depend upon them, but successfully manage it in another way. It is found that all that is necessary is, to plant these trees deficient in pollen, near some variety that produces pollen abundantly. In large orchards it is accomplisht by planting the different varieties in alternate strips of several rows each, and thus complete pollenization is obtained without the intervention of bees.

A familiar illustration of where cross-fertilization is sometimes necessary is found in the strawberry. Every one who has planted a strawberry-bed knows that there are bearing and nonbearing kinds—pistillate and staminate varieties. The pistillate varieties do not bear pollen, and in order to make them fruitful they must be planted near the staminate or pollen-producing varieties. By planting the two kinds in rows from four to six feet apart, the pistillate —those without pollen—are made to bear fruit abundantly. The pistillate blossoms do not produce honey or pollen, and consequently are not visited by bees or other insects; therefore they are not fertilized by them. But suppose the bees did visit them—they could carry the pollen from one to the other just as easily if they were six rods apart instead of six feet. But they are barren or nearly so, if planted six rods apart. But proof positive that they do not owe their fruitfulness to bees is that both varieties have made fine crops on these islands where there are no bees. Such a fact is worth a dozen theories. If pollen can be carried in the air from one to the other of these lowly plants that creep upon the ground, to the distance of six feet or more, and successfully fructify the bloom, could it not be carried a greater distance and more successfully from the elevated position on fruit-trees?

Growers of vegetables in greenhouses have found that for want of circulation of air, some varieties of vegetables did not bear well; and some have been induced to try putting a colony of bees in with their plants, and have found some benefit from it. The benefit was not, primarily, caused by the bees carrying pollen from one flower to another on their legs or bodies, but was caused by the stir in the air, or the little breeze, as it were, that was made by the wings of the bees while gathering and transferring pollen to the little receptacles on their hind legs, that dislodged the pollen and set it in motion to be borne in the air to other plants. In feeding flour to bees early in the spring as a substitute for pollen, I have watcht them with great interest while they were gathering and securing it in their pollen-baskets. They would gather the flour with their mouths and fore feet, and would sometimes wallow in it and get it all over their faces and bodies, and then they would rise, and with a peculiar fanning motion of their wings would keep themselves poised in the air just above the flour, while with their feet they were busy transferring the pollen from their front feet and bodies to the pollen-baskets, and by this motion of the wings they would create a little breeze that would blow all the flour off the board upon which it was fed. Pollen from flowers, whether in greenhouse or open air, is gathered and secured in the same way —placed in their pollen-baskets while on the wing, hovering over the flower, or while going from one flower to another, and as it is much lighter than wheat-flour, it is more easily dislodged and blown about in the greenhouse.

Up-to-date growers of vegetables under glass have long since discovered that the dislodging of the pollen and setting in motion could be accomplisht without bees, and was equally as successful. They simply go thru the house with a light stick or rod and give each plant a gentle shake and the work of pollenizing is accomplisht! This corroborates my statement, that the benefit from the bees was because they put the pollen in motion.

The ways of the propagation of species in the vegetable, insect or animal kingdom, is "wonderful and past finding out," but it affords a theme for interesting investigation which should be conducted in an impartial manner for the purpose of arriving at the truth. It is possible and I might say highly probable, that there may be some occult affinity or attraction between the stigma and the pollen of flowers by means of which the infinitesimal particles of pollen that are always floating in the air during fruit-bloom, are drawn as by a magnet, to the stigma when a short distance only from it; and when we look at the results—so few failures even under adverse circumstances—it seems there *must* be something of the kind. But this is speculation, and I am set for the defense of *facts*.

It is a fact that bees are seen in flowers with pollen on their feet and in their baskets, and they are seen to leave one flower and go to another with their pollen; but who *knows it to be a fact* that some of this pollen obtained from the first flower is left on the second one visited? Is there any way of finding out? And if it were left, do we know that this flower would *not* have produced fruit without the visit from this bee? I have known millions of flowers to produce fruit that never had a bee within six miles of them. If they will produce fruit in one place without bees, why not in other places? This claim is all conjecture based upon preconceived theory without a knowledge of sufficient facts to establish it as a truth; and when confronted with such undisputed facts as I have given in regard to growing fruit in maximum quantities and qualities without bees, it shows its weakness.

Since writing the foregoing, the American Bee Journal of March 14th has come to hand, containing an article on this subject from Mr. G. M. Doolittle. Mr. D. represents himself as discussing this subject with a neighbor who claimed that Mr. D.'s bees had injured his fruit crop by taking the honey from the bloom, and he wanted some of Mr. D.'s nice honey to pay for the damage. Mr. D. tells how he met this claim by proving to his neighbor that his bees were of great benefit to his fruit, instead of being an injury; and here is a sample of his proof:

"Going back to the creation of all things, all fruit or grain of any kind was an entire failure till *insects* were created to visit the flowers which secreted *nectar*, while those that did not secrete nectar bore fruit as perfect then as to-day."

This certainly is a new revelation as to the creation of things. But Mr. D. explains that "thus far all is a matter of conjecture." But nevertheless he represents himself as telling it to his neighbor, supposed to be less informed about such matters, as a matter of fact. With his explanation the statement is most absurd, even as a "conjecture."

"So far," he says, "is conjecture," and then he proceeds to make some other assertions in this very remarkable article, that are equally as fallacious; tho he intimates that he is thru with his "conjectures," and has made no further explanation. "From this I go on to explain how that the first object of nectar in the flowers was *not* for the perfecting of the fruit, or to be used as a food or luxury for man, nor even to snstain the life of the bees, but as a means to an end, and this end was that *insects of all kinds* might be drawn to the flowers so secreting, that the fruit or female blossoms of plants which could not possibly be fertilized in any other way, might be fertilized thru the agency of insects," etc. Another new revelation—seed and fruit bearing plants and trees were made, but they "could not possibly be fertilized" so as to bring forth seed to propagate their species until honey was placed in the flowers and then bees made to go after this honey in order to fructify the flowers. In the quotation given, Mr. D. places "*insects of all kinds*" in italics, in order to emphasize the assertion. If language means anything this includes the festive mosquito, the agile flea, the night-prowling bedbug, *et id genus omne*. This is too ridiculous to require further comment.

I have great respect for Mr. Doolittle as one of our most reliable teachers and writers on bee-keeping, and I have read his articles in the bee-papers for the last quarter of a century with great interest; but when Mr. D. leaves the subject with which he is familiar, and gives us such crude speculation as this article contains, for matter of fact, we want a more reliable teacher.

Pelee Island, Ont., Canada.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto-queen-button that we have been furnishing to bee-keepers for a long time. It has a pin on the underside to fasten to the coat. Price, by mail, 6 cents each; two for 10 cents or six for 25 cents. Send all orders to the office of the American Bee Journal.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Italianizing—Transferring—Painting Hives.

1. I have six colonies of black bees that did not swarm last season, but stored a little surplus honey, and have wintered in fair shape. Would it be good business to requeen them with untested Italian queens? If so, at what time in the season should it be done? I do not wish to prevent them from swarming.

2. I have four colonies that are on frames that have thin top-bars that sag with the weight of the combs, and some of the combs are not built straight so they can be handled easily. Would it pay to transfer them to Hoffman frames with full sheets of foundation? If so, at what time in the season should it be done? There have been bees in the combs for 10 or 12 years. I wish to secure comb honey altogether.

3. Would it do any harm to paint hives with the bees in them? OHIO.

ANSWERS.—1. Almost certainly it would be a decided advantage to make the change. The only reason for putting in that "almost" is that it is a bare possibility that you have black bees that are unusually good, and that you would get Italians that are unusually bad. But that is very unlikely to be the case. The new queens can be given at any time when it best suits your convenience.

2. Most likely it would pay well to transfer to more satisfactory frames, whether Hoffman or something else is a question. If propolis is as plenty with you as with me, you will hardly want Hoffmans, but you can have frames that are self-spacing like the Hoffman without so much surface for propolis. But instead of changing the combs for foundation, why not transfer the combs into better frames? The age of the combs is nothing against them. The straight combs would be transferred very easily—do it in fruit-bloom—and it is possible that at least some of the crooked ones could be straigtened, or put in piece-meal.

3. No, it will be all right, providing you make an arrangement with the bees that they will not sting the painter.

Clipping Queens—Other Management.

I expect to have about 40 queens to clip this spring. They are mostly in standard hives, but there was no brood foundation used, and I expect the combs are not in very good shape to hunt for queens.

1. How would it work, to place a hive filled with foundation in frames under a colony of bees (or perhaps have one frame of brood and a queen), place a bee-escape between the two hives, and below the escape have a cage of perforated zinc? Would the bees go down and accept the lower queen, and the upper queen attempt to go down and get caught in the cage?

2. Would there be danger of draining the upper hive so thoroly that the brood would be left to chill?

3. If this plan would work, how long do you think it would take to trap the queen from the time the escape was placed, in warm weather? IOWA.

ANSWERS.—Instead of answering your questions in order, please allow me to bunch them. In the first place, unless you have queens "to burn," you may as well dismiss the idea of having a queen below. Your idea, no doubt, is to have the frame of brood and the queen there as a sort of attraction. Altho the brood would be to some extent an attraction, a strange queen would not. The probability, if not the certainty, is that she would be promptly balled and killed. Even if the bees should be friendly to the queen below, she would do no good. When there is a general stampede, and the bees leave the hive *en masse*, the queen goes with them. But in your scheme there is nothing of the kind. A bee leaves the hive in the regular course of its duties, and in doing so passes down thru the escape, and is unable to return. There is nothing about that to make the queen want to go down. Neither is there when two bees or several thousand have gone down. All that she knows is that there seems to be getting to be a scarcity of bees, and that's no reason why she should desert her post in the brood-nest. So you may about as well give up the scheme as impracticable.

You do not say whether your object is merely to clip the queen, or to get the bees to move their brood-nest below. In either case, you can drum or smoke out the bees, hunt out the queen and clip her, then return. If you want the brood-nest to be moved below, put the queen in the lower story, with an excluder on it, then place over it the old hive. In three weeks time the worker-brood will be all hatcht out above, and you can do what you please with the upper story. If you do not want to drum out the bees, you might proceed another way: Put under the hive a story filled with foundation (all the better if you can give it a frame of brood), with no excluder between the two stories, and allow the bees to work down of their own accord. As soon as the queen becomes crowded for room above, she will move downstairs, and when you find eggs there you may look for her. Possibly you may not find her, for until about all the space upstairs is filled with honey she will keep going from one hive to the other. But your chances of finding her below will be constantly on the increase, and after you do find her, if you want the brood-nest to be below, you must use an excluder.

Before doing anything else, it will be well to make a thoro investigation in each case, and see if you can not find one, two, or three frames that can be taken out, and then the rest might be cut out and transferred correctly into the frames.

The Afterthought.

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

MATING OF QUEENS IN CONFINEMENT.

The front picture on No. 12 resuscitates an old enthusiasm, or fad, or "image of something in heaven above," at the shrine of which we all did vainly worship in time past—until the missionaries of common sense gently led us away. Possibly they were misguided in doing so. "Go in," Mr. Hutchinson! go in everybody who can't be entirely "easy" in mind about our present breeding! I feel quite strongly that the power to mate the individual drone to one individual queen would do us more harm than good; but the present scheme does not contemplate that exactly. It contemplates mating an individual queen to a nature-selected drone of a man-selected colony. More good than harm would come of that I think, providing success could be had. As Mr. Hutchinson suggests, success must be theoretically possible, providing some one is willing to spend effort enough, and cash enough, in building big enough. But let me also revive a related idea. Those who live near great plains on which there is no tree or hollow crevice, and no bees, can perhaps have the same thing cheaper. Take your wagon and drive out a few miles upon the plain, carrying your drone colony and your nuclei with virgins. Little islands are apt to be abnormally cool just when you want them to be hot; and at such stations queens drown: but plains incline to be hot at 2 p.m.

Possibly I can suggest some improvements on the tent shown in the picture. Suppose we abandon the gasometer shape, and let the starting model of shape be that of a race-track roof in—track only, center circle not occupied. Then flying around and around insects can go as many miles as they wish in a course that will not require any halting and turning back. Suppose we abandon the netting and use cheap cotton cloth. Abundance of light will come thru it; and it removes most of the temptation to butt in the effort to get out. Cheaper, much stronger, makes up on the sewing-machine more kindly, holes which may develop will be visible instead of invisible—better every way (except perhaps the deadly didn't think-of-it one), and excepting the obvious objection that it will take more wind, and need to be more strongly supported. But with cloth cover and race-track shape I don't believe it will need to be more than 16 feet high. Presumably it will be possible to fly young queens and drones in such a course *in ignorance of the fact that there is any*

more to the world. Before you build, and after you have got this crude ideal of shape well in your mind, you can push in two opposite sides of it until it is dumb-bell shaped instead of circular—hives to be at one of the bulbs. This modification will save one wall, save very greatly in the ground area required, and give greater strength against wind. The cloth at the sides can be arranged to pull up and tie at the top when not in use and thus offer little sail to a storm.

It will require considerable grace to do so, but I trust Mr. Davitte will be able to take it meekly if there are still "Thomases" in the world. Sixteen days for preparatory exercise strikes one as rather a big chunk cut out of the drone's life. The words, "the queen and drone fall *nearly* to the ground," are provocative of suspicion. They sound so dreadfully like they were "cut out mit de shears" from the bee-literature of 25 years ago. A fall of less than 30 feet seems very inadequate to give time for twisting off a strong ligament by rotation. Page 181.

BEE-KEEPING AND PIANO-PLAYING.

Easier to learn apiculture than piano-playing, eh? Well perhaps. There's this about it—if you learn bees you suffer the torments yourself mostly; if piano is your choice the agony falls to the neighbors. Page 182.

ADULTERATION OF SUGAR COMMON.

Referring to Mr. Cowan's letter on page 211, I guess I shall have to admit that the adulteration of granulated sugar is getting to be common. Am using some now very pleasant to the taste, but nevertheless tasting as tho there might be an admixture of something. The hardness of grain and the straight-out sweet and nothing else do not seem to be there.

BUCKWHEAT BLOOM EARLY.

West Virginia, on page 185—what does he want buckwheat to bloom July 1st for? Perhaps it might be well to tell him that buckwheat made to bloom abnormally early is pretty sure not to yield honey to amount to anything—also pretty sure not to produce very much grain, either.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

"THE BEST CROP."

At one of our recent farmers' institutes, a lady had a paper on the subject of "The Best Crop." Of course no one could know whether she was to treat of beans, barley, or beets. We soon found that it was to be none of these, but was to be devoted to the children. And surely she was right. The boys and girls do certainly form the best crop, not only of the farm, but of any home be it in city or country. I wonder if any of us realize this fact as we should. How many of the children use tobacco; how many even smoke the harmful, not to say deadly, cigarette; how many seek amusement in the saloon; how many use profane language; how many tell or listen to the vulgar story, and often demean themselves by telling it themselves. Oh, how happy we are if we can keep our dear ones from all these debasing habits! We engage men to spend days, and keep a close watch of them all of the time as they break a favorite colt. Yet do we all give time to the children, and do we watch as closely, as their habits are being formed? Do we give an hour or two on each Sunday, perchance walking in the field, park, or woodland, and calling their attention to the many beauties that are scattered so thickly all about us? The father and mother who have not had these pleasures have mist one of the rarest sweets of life. The children who have not in their early, tender years enjoyed this rich fellowship, have had a most valuable part of their life left out.

I do not think there is any one thing in my whole life that I recall with more satisfaction and genuine pleasure than I do the Sunday walks with the dear wife and children. I found it so easy to beget in the children a love even for the creeping, crawling things. They loved and admired even the snakes, the frogs, and the caterpillars. Who has not admired the stanza from the poet?

> "He prayeth best who loveth best,
> All things both great and small;
> For the dear Lord who loveth us,
> He made and loveth all."

Can we help our children more than to lead them to love and admire God's handiwork at the very threshold of their lives? If we can couple with this in their young minds a full appreciation that all the good things are from God, we have given to them an invaluable possession. I would rather my child would have a perfectly realizing sense that God was all about him, loved him, cared for him, and was the Great Giver of all the beauty about us, than any other one thing. No father should be so busy that he could not take these Sunday walks with the dear children.

Is it not also true that the club or street-corner talk should be very valuable indeed if it robs the children of the time and sympathy of the father? How many fathers carry a life-long burden because of wayward children! I just heard a day or two ago of a good Christian man who lives close by us, who has also been a life-long minister of the gospel, whose son has dipt into all the bad things that smirch the life and character, I have known the boy, and his face tells the story of his reckless life. I believe all this burden of sorrow might very likely have been avoided had the father found time during the boy's early years to have taken walks, read to him the Youth's Companion or other good paper, given him some chickens, and then taken the interest in him that is always so pleasing to the boy or girl.

I remember once in a lecture before the Chautauqua Association, in speaking of inciting in children a love of Nature, I made what I feared at the time was a rash assertion. I said that I believed that up to twelve years of age, if Barnum's "Greatest Show on Earth" were to come our way, and I had said to my boy and girl, "We will take the day off, and go to the circus or for a walk in the woods—which shall it be?" I believed that they would have elected the walk in the woods. As I bethought me of the circus, the fine horses, the rapid and dizzy riding, the wondrous jumping, swinging and wrestling, I feared that I had perhaps make a reckless statement. After the lecture, I askt my grown daughter who was present, if I had done so. She said, "No, indeed. I am sure we should have gone for the walk."

It is assuredly true that the children are the best crop of the farm. Time, effort, energy, spent in keeping them interested in good things is the best kind of cultivation. I have often wisht that I had money so that I could put the Youth's Companion into every home of the land. Next to our personal attention, nothing will help so much to lift the children from all that is mean and unseemly as good papers and books. These are now so cheap that no home need be without them. We have had many illustrations here at our college that the boy or girl of good stuff need not even go without a college education. Energy, determination, vim, can even give this best of riches with no outside help at all. How much easier to secure the good book, the good paper, for the children.

CHILDREN IN THE CITY.

How many of our good friends live in the close quarters of the city, perhaps in a flat where a few feet of ground in front and back form the only seclusive places for the children. The children must have air and sunshine. Without these, pallor, weakness, disease, are sure to come. Left to the street, and all kinds of companionship will be theirs. Impudence, rudeness, often even the vilest vulgarity will be poured into their ears. Surely, no mother can contemplate this without a dread and horror that will do its utmost to bring invention to the rescue. I have a friend who has just this problem to solve. Her husband's business makes it almost impossible to escape the narrow limits of the city flat. The back yard is about 30x40 feet. This is boarded up so as to shut out the street children, and give the seclusion which is so imperative to the best good of the children. Lovely vines have converted the rude board fence into a thing of beauty. A hammock, screen to protect from the sun, pile of clean sand for the thousand and one things that the little architects will design, some clay to be used in moulding, blocks, brick, etc., all make that back yard a veritable paradise for the wee children. Other children in the neighborhood long to gain admittance to this little fairyland, and are themselves moulded into goodness as they know that the most perfect conduct is the only key that unlocks the door.

Thus this mother has not only solved the immediate problem for her own children, but she has a center of good influence which is throwing its wholesome beams all thru that section of the city. Whenever the busy mother can do so, she takes the children to the parks and there talks of birds, insects and even creeping things, for she learned to know and love these things when she was little, and she is handing these same bits of knowledge over to the eager children which have come to bless her home.

A friend at my side asks, "How about the coming years?"

This mother has thought this out, and has planned to live so economically and plan so well that as the children get older they can move into the suburbs, and there with garden, poultry and bees, the children may have that which will not only give them wholesome employment, but which will also interest them in the real, vital things of life, and thus prepare them for the sterner duties which will come in their later years. We see that this mother has devoted a great deal of time and thought that she may give her children an abundance of the good things, and keep from them anything that would poison character and vitiate the life. Ought we not all to do the same thing? Ought we not for our own good and also as a patriotic duty? Mr. Woodward, so well and favorably known in the State of New York, once told me that no man should be content to leave this world until he could leave behind children who were brighter and better than he. I believe he said truly. We can hardly hope to realize this happy experience unless we give earnest heed to this "best crop of the farm."

INFLUENCE OF GOOD EXAMPLE TRUTHFULNESS AND HONESTY.

I believe the best cultivation that can be given this crop is that of wholesome example. How few of us that are parents are careful enough in this respect. Our words are not such as becometh the Gospel of Peace or our high position as parents. The rude slang, the profanity, the sarcasm, the thoughtless wit, all these should be kept away from the home circle. Ought we not to form an idea of just what we want this best crop to be? Then, ought we not with most earnest, prayerful effort strive to make our own lives conform to this ideal? The most blessed thing in character is absolute truthfulness. Are we careful enough that there shall be no lie in our lives? How quickly even the little deception will be detected by the child. If such deception beget in them a lack of genuine truthfulness, then we have sown the biggest tares in our best crop of the farm.

Next to truthfulness, honesty holds first rank. The child, the man, the citizen, are not what the home, the community, the country, stand in pressing need of unless transparent honesty gilds the life. Who has not felt grieved to the quick as they have heard the father, perhaps about the tea-table, tell with great rejoicing how in some bargain or trade during the day he has cheated a stranger or neighbor to the tune of many dollars? Oh, that he could know what a black eye he was giving to the forming character of the child as he tells of any such experience as that given above.

KEEPING LITTLE HANDS BUSY.

I think one of the most helpful things in the best development of this "best crop of the farm" is the keeping of the little hands busy. This is one of the things which glorifies farm life. How difficult always to furnish the city boy with wholesome employment. On the farm it is not difficult at all. If we give the boy the bees, the chickens or the calf, which he is to care for, we will make this labor at the same time recreation. I know of a father who incited such interest in bees and chickens in his children that they were not only both of them induced to become great readers and students, but they were led into habits of industry and were each enabled to make money, independent of the father, enough largely to defray their expenses in getting a college education. When I was a boy, my father always kept me at work. While I was rarely ever late at school, I never got there much before the opening hour, and tarried afterwards at my peril. I thought then, at times at least, that my lot was a hard one. How many times since have I blest my good father's memory as I have learned to appreciate his wisdom, and have seen its fruits in my own life.

The parent who succeeds in developing habits of industry and a love of good, honest work in the child, has certainly workt in the very best way to secure the best fruitage in the best crop of the farm.

ITALIAN

BEES AND QUEENS

Having been 28 years rearing Queens for the trade on the best known plans, I will continue to rear the best.

PRICES:

One Untested Queen	$1.00
One Tested Queen	1.35
One Select Tested Queen	1.50
One Breeder	3.00
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Northern Italian Queens!

Reared from Imported Mothers.

Our stock is so carefully bred and selected, as to secure car-loads of honey. Locality free from foul brood and other bee-diseases. Prices: 1 untested Queen, $1.00, 6 for $5.00; 1 tested Queen, $1.50, 6 for $7.50; best imported Queens, $6.00; fair imported, $5.00.

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18E7t RICHLAND CENTER, WIS.

BEE HIVES, SECTIONS AND ALL BEE-KEEPERS' SUPPLIES.

Big Catalog Free. Write now. Leahy Mfg. Co., 2415 Alta Sita, E. St. Louis, Ill.

6Atf Mention the American Bee Journal.

GENERAL ITEMS

Bees Wintered Poorly.

Bees have wintered poorly in this locality. I don't believe the working force will exceed one-half of what it was last year. The careless bee-keepers have lost heavily, and some have nothing left but empty hives and experience. One of my apiaries which contained 116 colonies last fall has been reduced to 95, on account of insufficient stores and a cold cellar. The bees in my other two apiaries wintered well, the loss being only 3 colonies out of 241, and all are apparently in good condition. A. G. WILSON.

Vernon Co., Wis., April 12.

Prospects for a Good Fruit-Bloom.

Spring in this locality is late, wet and cold, but there will be an unusually good fruit-bloom, and the ground is being covered with a carpet of white clover, so we are hoping for a good season. JOHN W. BEATTY.

Clay Co., Mo., April 13.

Winter Losses.

The past winter was a hard one on bees in this vicinity. I put 12 colonies into winter quarters, and 11 of them came thru all right, but they will require a great deal of feeding. One bee-keeper here had 30 colonies last fall, and has lost 14 of them so far. I think he will make a successful bee-keeper, for to work with them is his "meat and drink."

JETHRO WILSON.

Watauga Co., N. C., April 3.

Bees Will "Ring Him Up" When Swarming.

I have a plan in my mind whereby I believe I can make the bees "ring me up" when a swarm issues. I shall work on the theory that when a swarm issues they pour out of

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa

1860——1901

THOSE LONG-TONGUED ADELS!

WHITE ROCK, MINN., April 10, 1901.

The Adel Queens I got from you are more than you claimed for them. I want 6 more.—S. W. JACKSON.

ONECO, CONN., April 15, 1901.

The Adels have wintered finely, and I like them very much. I want more Queens. Send price list.—REV. T. B. MOWREY.

I guarantee any Queens sent out from my apiary and sold for $1.00 each to be as good as any $10 Queens sold by any dealer. PRICE-LIST NOW READY.

18E2t HENRY ALLEY, Wenham, Mass.

Please mention Bee Journal when writing.

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for all time is the

Metal Wheel.

We make them in all sizes and varieties, 10 FIT ANY AXLE. Any height, any width of tire desired. Our wheels are either direct or stagger spoke. Can FIT YOUR WAGON perfectly without change.

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Retail—Wholesale—Jobbing.

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Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application. BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

Please mention Bee Journal when writing.

the hive with such a rush that a number of them accumulate in front of the hive on the ground or on the alighting-board.

I would like to ask the following questions of just as many bee-keepers as will answer thru the "Old Reliable," and when the answers are publisht I will give my plan with some photographs in this Journal:

1. When a swarm issues do the bees pour out of the hive with such a rush that they can not take to their wings fast enough, and consequently pile up in front of the hive to the amount of a half pound or more?

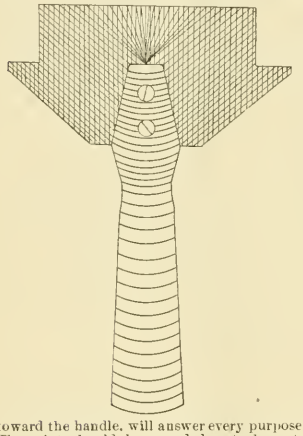
2. When a prime swarm issues, is the queen one of the last to come out of the hive?

A. B. GINNER.

Hardin Co., Iowa, April 13.

Handy Little Apiarian Tools.

I enclose a drawing of a little tool that I made for fastening "starters" in sections. The cut is about two-fifths of the full size, and will do the work as fast as any tool I know of. I use two of them, keeping one in a dish of hot water on a small kerosene stove, changing when one gets too cool. There is no wasting of foundation by melting, as with most of the high-priced, patented affairs. I made mine out of a broken saw blade, but a piece of heavy tin doubled, with the ends



toward the handle, will answer every purpose, The point should be rounded, not sharp, to avoid cutting the foundation in two.

I also have a small scraper for scraping propolis from sections, supers, etc., made in the same way, of steel, only the point is turned down and kept sharp. This beats the Golden section-cleaner out of sight. I use it to clean the tops of the sections before removing them from the super, and can do the whole 24 in the time it used to take me to do one with the Golden method.

Reading an article in the Bee Jonrnal some time ago, suggesting that bee-keepers tell each other of any little thing they think might be helpful, is what prompted me to submit the above mites. A. F. FOOTE.

Mitchell Co., Iowa.

Pickled Brood—Introducing Queens.

Pickled brood, in this locality, is of little moment. Colonies of Italian bees are not troubled with it. I have cured many cases among blacks and hybrids, simply by introducing an Italian queen. When her bees predominate the disease disappears. I am quite sure that pickled brood is not a starvation disease, as newly-hived swarms, gathering honey and pollen freely, have shown it in their first brood.

I successfully introduced over 50 queens, both home-bred and from a distance, to colonies in almost every possible condition, during the season of 1900. I used the Miller cage, pasteboard tackt over the candy. The pasteboard must be a little narrower than the hole

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Heavy tin smoke-engine, 4-inch stove, per mail, $1.50; 3½-inch, $1.10; 3-inch, $1.00; 2½-inch, 90c; 2-inch, 65c. Bingham smokers are the originals, and have all the improvements, and have been the standard of excellence for 22 years. Only 3 larger ones brass.

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Truly yours,
HENRY SCHMIDT, Hutto, Tex.

BIRNAMWOOD, WIS., April 10, 1901.

DEAR SIR:—Please send per mail one 3½-inch brass smoker. A decade's experience has convinced me that the Bingham is the best. Respectfully, M. P. CADY.

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T. F. BINGHAM, Farwell, Mich.

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which it covers. The thin shipping-tags used by express companies are made of just the right kind of pasteboard for this purpose.

After several years' experience with the Doolittle and Pridgen methods of queen-rearing, I prefer the Doolittle plan. With a quill I can transfer just as small larvæ as Mr. Pridgen can move, "baby, cradle and all," and no combs mutilated.

To keep up with the times, I have been measuring the tongues of bees from several of my colonies. The variation in length is surprising. The longest-tongued bees that I have yet measured are from the granddaughter of an "Adel" queen. Their tongues measure from .25 inch to .254 inch from the base of the sub-mentum to the tip of the ligula. This colony built combs for me all last summer, brood was taken from them frequently, yet they gave a small surplus, and had more winter stores than any other colony in my home yard.

The bee-keepers of South Dakota have experinced some of the advantages of co-operation. Supplies were purchast thru our State association. For many of our members the saving of supplies alone many times repaid the membership fee of one dollar.

Perhaps for those who *will* use quilts on hives nothing is so good as Dr. Miller's quilts with several layers of newspapers between, says one of my neighbors who has used many of them.

Bees have wintered perfectly, both indoors and outdoors. E. F. ATWATER.

Yankton Co., S. D., March 1.

Report from Southern Georgia.

I began bee-keeping in 1897 with 5 colonies, and have made a great many mistakes, as most beginners do. I now have a small apiary of 27 colonies, which I run entirely for comb honey, as I find a better demand for it in my local market than for the extracted honey.

I live in southern Georgia, where we have no severe winters, and my bees are left on the summer stands in single-walled hives the year around, without the loss of a single colony in wintering.

I hived a swarm April 5th that weighed 15 pounds, and have put some supers on. Our main honey-flow begins about May 1st, and lasts until about July 1st. I take off the supers about July 15th, and let them build up for winter. I lose two or three colonies every spring from spring dwindling.

There is no apiary within 8 miles of mine. I like bee-keeping, and also like the American Bee Journal, and think that no bee-keeper ought to try to get along without it.

H. T. HANNA.

Decatur Co., Ga., April 13.

Successful Cellar-Wintering.

Our bees came out booming this spring. From 400 colonies placed in the cellar last fall we have lost only 10 colonies, so I think we will have some bee-business this season. Our imported queens wintered very well, and came out with plenty of brood in their hives. Many of the bee-keepers in this section report heavy losses. We attribute our success in wintering to the bees having plenty of good food, good cellars, and last, but not less important, good, young, prolific queens.

ADA L. PICKARD.

Richland Co., Wis., April 17.

Rendering Beeswax.

Having seen and read a good many articles in the American Bee Journal about rendering wax from old brood-combs, and about its being such an awful job, perhaps I can help some of those who think it so, by giving my plan. I think the solar wax-extractor is a slow process unless one has but a few colonies. I have tried a number of different ways, and I think the following is "king of all," both for rapid work and ease:

I have made what I call a "jack press." It is 10x16 inches, inside measure, the posts and beams are 4x6 oak, the bottom is made of 3-inch planks, and the ends and sides are made of one-inch pine with one-inch slots left on each side of the bottom, these being covered with wire cloth so that the wax can pass thru. I also use a sack made of burlap with square bottom the size of the inside of the press. I have another plank to fit loosely in the press, which I set the jack on. I use a jack with 2x10 inch screw. Set the whole thing on a large tub or trough with some water in it, and I am ready for business.

I boil about 25 or 30 combs at a time in an old wash-boiler, having it as hot as I can make it. I have the sack in the press all ready, pour the boiling wax into it, fold down the sack, lay on the loose plank, screw down the jack, and the work is done. I can press it as dry as pomace that comes from a cider-press. After having done all this I refill the boiler, and let the next lot get hot while I am pressing the first. If the press is made strong, and the work is done right, from 250 to 300 combs can be prest in a day.

WM. HOUSEL.

Hunterdon Co., N. J., March 21.

Prospects for a Good Honey Crop.

I put 11 colonies into the cellar last fall, but they were not very strong, so I lost 4 of them. Last season was a very poor one for bees in this part of the State, but the prospects are for a good honey crop this year.

ALBERT GOETSCH.

Dodge Co., Wis., April 19.

How the "Robber-Bees" Were Quelled.

I had a little experience once with bees when I first commenced in the bee-business. I had read up on the subject of bee-keeping, and considered myself competent to care for and manage an apiary. I soon started out in quest of bees, and purchast two colonies in box-hives. This was in early spring. I kept close watch to see that all was well with them, and everything went well the first day. The second day trouble came. One of my hives was full of honey and bees, the other one was light in both.

About 1 p.m. I noticed there was something wrong in the apiary. I soon discovered just what the trouble was—they were robbing my best colony. I thought how very fortunate I was to have learned just how to manage a bad case of robbing like the one I now had to deal with.

I sent one member of the family after straw, another after water, and myself after the sprinkler. I soon had the front of the hive, which was being robbed, piled high with straw, and the sprinkler running full time. But what perplext me was, the bees kept piling into the hive, and none came out, but soon all was quiet. I had conquered them. I decided then and there that I was well-formed in all the branches of bee-keeping.

I didn't learn my mistake till the following day, when the bees again (as before) came out for their daily *play-spell*.

A. E. WILLCUTT.

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J. L. Gandy, of Humboldt, Nebr., wrote us on Aug. 5th, 1900, saying that the colony having one of our queens had already stored over **400** pounds of honey (mostly comb); he states that he is certain that our bees work on **Red Clover**, as they were the only kind in his locality and apiary.

A. I. Root's folks say that our queens are extra fine, while the editor of the American Bee Journal tells us that he has good reports from our queens from time to time. We have files upon files of unsolicited testimonials.

After considering the above evidence, need you wonder why our orders have increast each year? Give us a trial order and be pleased. We have years of experience in mailing and rearing queens. Safe delivery will be guaranteed, and instructions for introducing sent with each lot of queens.

QUEENS NOW READY TO MAIL.

Prices before July 1st:

	1	6	12
Warranted stock	$ .75	$ 4.25	$ 8.00
Selected warranted	1.00	5.00	9.50
Tested	1.50	8.00	15.00
Selected tested	2.00	10 50	
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Price of Queens from Imported Mothers:

Tested..1—$ 1.50
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Un " ..6— 4.00
Tested.12— 12.00
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(Golden, same price.) Select tested, either race, $2.50. Write for circular.

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Thus says a writer in one of our agricultural papers. While there may not be in the claims made, all the writer thinks, yet in them is something worthy of thinking about. If honey is really the *good* thing we bee-keepers

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Fine lot of Choice Tested Queens reared last season, daughters of select imported and select goldenQueens, reared 3½ miles apart, and mated to select drones, $1.50 each; untested warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and but few within 5 miles. 28 years' experience. Discount on large orders. Contracts with dealers a specialty. JOHN M. DAVIS,
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Chicago, Ill., Jan. 28, 1901.

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Yours truly, L. Kreutzinger.

Prices for May and June:

Number of Queens	1	6	12
GOLDEN QUEENS.			
Untested	$1.00	$ 5.00	$ 9.00
Tested	1.25	7.00	11.00
Select Tested	2.00	10.00	17.00
Breeders	5.00		
HONEY QUEENS.			
Untested	$1.00	$5.00	$ 9.00
Tested	1.25	7.00	11.00
Select Tested	1.50	8 00	13.00

Safe arrival guaranteed. Descriptive price-list free.

D. J. BLOCHER, Pearl City, Ill.

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CAREER AND CHARACTER OF ABRAHAM LINCOLN.

An address by Joseph Choate, Ambassador to Great Britain, on the career and character of Abraham Lincoln—his early life—his early struggles with the world—his character as developt in the later years of his life and his administration, which placed his name so high on the world's roll of honor and fame, has been publisht by the Chicago, Milwaukee & St. Paul Railway, and may be had by sending six (6) cents in postage to F. A. Miller, General Passenger Agent, Chicago, Ill.

18A3t

think it is, are we doing right in not publishing the matter more? Are we not "hiding our light under a bushel" the most of the time, when, by letting it shine brightly *all* the time, we might honor our calling by leading others to partake of the good which comes to the world thru that best of all sweets—honey?—G. M. Doolittle, in the Progressive Bee-Keeper.

Load a Worker-Bee Can Carry.

A Stray Straw in Gleanings in Bee-Culture says: "A worker, according to Alex. Astor (Rev. Int.), can carry about an eighth more than its own weight when honey is given to it. The maximum load of nectar brought in he found to be (about June 1st) 65.5 milligrams (a little more than three-fourths its own weight); and from then to Aug. 3d the weighings showed 50 mg., 45, 40, 28, 25, 18, 16, 10, 0."—[It appears, then, that a bee can carry more of *honey* than it can of *nectar*—not larger in bulk, but greater in weight. These figures are very interesting.—Editor.]

A Queen Between the Lips.

A pointer for those who, like myself, are forgetful: Here is a queen I wish to remove. The hive is all open; I hold in my hands the frame she is on, but I have no cage! It is a long way back to the honey-house; the sun is hot, and robbers have found us. If I place the frame back into the hive in order to go and get the cage, I shall miss the queen; I can do nothing so long as this frame is in my hands. I want that queen! What shall I do? Simply place her, head in, carefully between the dry lips, close the hive, and then go and cage her. See?

I hold cells, root in, the same way, very often.—"Swarthmore," in the American Bee-Keeper.

Good Apiarian Advice.

Produce what your market calls for; this will be both comb and extracted honey. Some customers will want comb, and some extracted—please both. Bottle nothing but first-class honey. Furnish this to the grocers around you to sell on commission, as many will sell in this way who would not purchase outright. Call all your wits into play, and remember, it is as honorable to sell honey as to sell wheat or potatoes. Give good weight, and you will soon work up a good trade, and get retail prices for your goods.—F. P. Clare, in the Bee-Keepers' Review.

Railroads Against Comb Honey.

Referring to the fact that the Grand Trunk railway in Canada has ruled out a class of honey as freight, and to the information given in a previous number of this journal as to contemplated action on this side, the editor of Gleanings in Bee-Culture expresses himself in the following vigorous style:

I regard this as a most serious matter. I can not think of anything that would handicap bee-keeping any more, unless it be foul or black brood, than to have the railroads practically refuse to handle comb honey. We can not afford at the present rate to send any quantity by express; and if the new freight-classification should go thru, we could not afford to send it by freight. Many large apiaries would be totally unable to dispose of their product, and the industry would not

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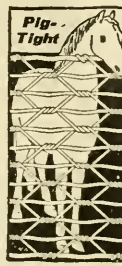

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Tells all about Bees in California. The yields and Price of Honey; the Pasturage and Nectar-Producing Plants; the Bee-Ranches and how they are conducted. In fact the entire field is fully covered by an expert bee-man. Besides this the paper also tells you all about California Agriculture and Horticulture. $1.00 per year; 6 months, 50 cents. Sample copies, 10 cents.

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only be crippled but almost annihilated. I have already laid the matter before General Manager Secor, of the National Bee-Keepers' Association. Action should be taken at once, it seems to me, because it is far easier, according to our experience, to prevent a bad classification getting on the tariff-books than to have such classification rescinded after it is once in force. Why, our Association could better expend *every dollar in its treasury* rather than have such a foolish, unreasonable, and uncalled-for discrimination against our industry. I am sure that our worthy general manager will take suitable action at once. In the meantime, the Ontario Bee-Keepers' Asssociation in Canada should see what could be done to have that unjust ruling of the Grand Trunk railway rescinded. It is apparent that the proposed action on *this side* of the line was instigated by the fool ruling of the Grand Trunk on the other side; and as long as it stands thus, so long it will be a menace to us.

frames of honey do you allow a colony for winter? What about feeding syrup in paper bags? Have you tried keeping two queens in one colony? For the ordinary bee-keepers, are artificial or natural methods better? Do you ever have moldy combs? When did your bees take their first good flight this spring? What kind of feeders do you use? Do you prefer a large or small hive? When do you get the best honey crop?

Your presence is earnestly requested.

ELLEN B. PECK, Sec.

CONVENTION NOTICES.

Illinois.—The spring meeting of the eastern division of the Northern Illinois Bee-Keepers' Association will be held at the residence of B. Kennedy, 7 miles southeast of Rockford, Ill., on Rural Route No. 5, and 3 miles northeast of New Milford, Ill., Tuesday, May 21, 1901. All interested in bees are cordially invited to attend.

B. KENNEDY, Sec.

Connecticut.—The Connecticut Bee-Keepers' Association will hold its next meeting at New Haven, in the Aldermanic Chamber of the City Hall, on Church Street, Wednesday, May 8, 1901, at 10 a.m. Among the topics for discussion are these:

With how many colonies did you begin the winter? How many colonies have you now? To what were the losses due? Which do you prefer, black or Italian bees? How many

ALBINO QUEENS If you want the most prolific Queens—If you want the gentlest Bees—If you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.
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Catnip Seed Free!

We have a small quantity of Catnip Seed which we wish to offer our readers. Some consider catnip one of the greatest of honey-yielders. We will mail to one of our regular subscribers **one ounce** of the seed for sending us ONE NEW subscriber to the American Bee Journal for a year with $1.00; or will mail to any one an ounce of the seed and the American Bee Journal one year—both for $1.30; or will mail an ounce of the seed alone for 50 cents. As our stock of this seed is very small, better order soon.

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Red Clover Queens

LONG-TONGUED BEES ARE DEMANDED NOW.

ONE Untested Italian Queen FREE as a Premium for sending us TWO new subscribers to the American Bee Journal for one year (with $2); or, one Tested Queen free as a premium for sending us FOUR new subscribers with $4.00).

We have arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us the coming season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

Orders for these fine, "long-reach" queens will be filled in rotation—"first come, first served"—beginning about June 10th. It is expected that orders can be filled quite promptly, as a large number of nuclei will be run. All queens will be guaranteed to arrive in good condition, and all will be clipt, unless otherwise ordered.

CASH PRICES of these fine queens will be as follows: Untested, $1.00 each; Tested, $2.00 each. Send all orders to

GEORGE W. YORK & CO.
144 & 146 Erie St., CHICAGO, ILL.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Apr. 18.—Choice grades of white comb honey sell at 16c, and there is no surplus in sight. Other grades of comb sell fairly well at the following prices: No. 1 grades of white, 14@15c; off grades, 13c; light amber, 12c; dark amber, 10@11c; buckwheat and other dark combs, 9@10c; candied and mixt colors, 7@9c. Extracted is dull, and prices very weak, with the exception of some fancy linden and clover grades, which is quotable at 7@8c; ambers, 6@7c; dark and buckwheat, 5@6c. Beeswax, 30c.

R. A. BURNETT & Co.

BUFFALO, Apr. 18.—Fancy white comb, 15@16c; poor, dark, etc., 8@13c, as to grade. Demand good on fancy. Beeswax, 20@28c, as to grade.

BATTERSON & Co.

OMAHA, Apr. 25.—There has not been any change in the condition of the market nor in prices during the last month, and we do not look for any change until new crop makes its appearance. There is not any more stock held in this part of the country than will be used up at the present range of prices. We quote fancy white comb, 15@16c. Extracted, slow sale, 7@8c for white.

PEYCKE BROS.

DETROIT, Apr. 18—Fancy white comb, 14@15c; No. 1, 13@14c; dark and amber, 10@12c. Extracted, white, 6½@7c; amber and dark, 5@6c. Beeswax, 27@28c.

M. H. HUNT & SON.

NEW YORK, March 19.—Our market is virtually bare of comb honey, and there is a fair demand for all grades. Fancy white is still selling readily at from 15@16c; No. 1 white at from 13@14c; amber at from 12@13c; buckwheat, 10@11c, according to quality and style of package.

As to extracted, the market is quiet and inactive and a certain amount will have to be carried over again. Prices are declining somewhat, and if the honey is not moved in large lots, concessions will have to be made. We quote: California white, 7@7½c; light amber, 6½@7c; other grades and Southern, 65@75c per gallon. Beeswax very firm at 28@28½c, and for exceptionally fine yellow, 29c.

HILDRETH & SEGELKEN.

CINCINNATI, Apr. 18.—The demand for comb honey is nearly over. The stock of it also well cleaned up. Fancy white brings 16 cents. Extracted is in fair demand; dark sells for 5½c; better grades bring 6@7½c; fancy white clover from 8½@9c.

C. H. W. WEBER.

KANSAS CITY, Apr. 18.—There is very little honey offered, and the demand is steady, selling from $3.50@3.90 per case, fancy white; no amber on the market at this time. Extracted, no change; white, from 8@9c; amber, there is a little on this market that could be sold from 7½@8½c. Beeswax scarce and demand good, at 25@28c.

W. R. CROMWELL PRODUCE Co.,
Successors to C. C. Clemons & Co.

ALBANY, N.Y., Apr. 19.—Honey market quiet. Light supply and light demand now. The stock is well cleaned out, so will be no old honey to carry over this season.

H. R. WRIGHT.

BOSTON, April 4.—Fancy No. 1 white in cartons, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. Absolutely no call for dark honey this year. Extracted, white, 8@8½c; light amber, 7½@8c. Beeswax, 27c.

BLAKE, SCOTT & LEE.

SAN FRANCISCO, April 3.—White comb 12@13 cents; amber, 9@11c; dark, 6@8 cents. Extracted, white, 6@6½c; light amber, 4½@5c; amber, 4@4½c. Beeswax, 26@28c.

Despite general expectations and contrary to experience of previous years, new honey is reported on market. For some new amber extracted from Ventura county 6 cents is askt, but this is above the views of buyers. Old is still offering in moderate quantity, both comb and extracted, mostly amber.

WANTED By young woman, position to assist in apiary.
MISS WHITE, 3915 Prairie Ave., CHICAGO, ILL.

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Smokers, Sections, Comb Foundation and all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.

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And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	70c	$1.20	$2.75	$5.00
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Alsike Clover	90c	1.70	3.75	7.00
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Alfalfa Clover	80c	1.40	3.25	6.00
Japanese Buckwheat	30c	.50	1.00	1.60

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Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

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To say to the readers of the BEE JOURNAL that

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has concluded to sell QUEENS in their season during 1901, at the following prices:

1 Untested Queen	$1.00
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Select Tested Queen, last year's rearing	2.50
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The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

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The call for queens of our celebrated $200 imported mother has been so great that we have decided, in addition to the $2.00, $4.00, and $6.00 grades of this stock, to offer some $10.00, $15.00, and even $25.00 of this same blood. But these prices are for tested queens, **the tongues of whose bees have been measured.**

The $10.00 queen is guaranteed to produce bees with a tongue-measurement of 19-100.

The $15.00 queen, 20-100.

The $25.00 queen, 21-100.

These last are very rare and with one exception this (21-100) is the longest tongue reach yet secured. We reserve the right, when we do not have the stock with the tongue reach called for, either to return the money or to send the next lower, remitting the balance. It would be well for our friends to put in their orders at once, and as soon as we get the grades we will send notice. When the money is sent, the queens will be forwarded. These will be put up in the very best manner possible; and while we guarantee safe arrival in good order to any point in the United States, on any railway line, we will not guarantee safe introduction. Such valuable queens should be release on hatching brood.

N. B.—It seems as if it ought not to be necessary to say that no one but a queen-breeder or a large honey-producer should order these high-priced queens; but it is a fact according to our experience that beginners with only a few colonies will order our highest priced imported queens. Such bee-keepers have no more use for such queens than a pig has for a wheel-barrow.

THE A. I. ROOT CO., Medina, Ohio.
(U. S. A.)

☞ GEORGE W. YORK & CO. 144 & 146 Erie Street, CHICAGO, ILL.,
are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., MAY 9, 1901.

FORTY-FIRST YEAR No. 19.

Three American Apiarian Editors.

(Courtesy of the Bee-Keepers' Review.)

ERNEST R. ROOT, Gleanings in Bee-Culture. 1873.

W. Z. HUTCHINSON, The Bee-Keepers' Review. 1887.

GEORGE W. YORK, The American Bee Journal. 1861.

THE AMERICAN BEE JOURNAL.

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GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale. The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

FEMININE PLUCK is exhibited by Miss Rose Kennicott, who, in the good State of Colorado, has workt up in 12 years from 5 colonies to nearly 300 colonies, with only the text-books, bee-papers, and her own experience to guide her. May her success continue.

MR. F. GENT, of Wright Co., Minn., who has been offering bees for sale in our advertising columns, wrote us April 30th, when re-ordering his advertisement: "The American Bee Journal is a good puller." Of course it is. If you have any good thing to sell that bee-keepers want or need, offer it thru our advertising columns.

MR. N. E. FRANCE, of Grant Co., Wis., writing us April 27th, says:

"Prospects are for a good honey crop in Wisconsin this season. But some lost many colonies of bees during the winter.

"I am pleased to know that Michigan now has a law to suppress foul brood. I have wisht many times that every State had the same, then the disease could be eradicated with no importing or sending of diseased bees from one State to another."

THREE FRIENDLY EDITORS are shown on the first page this week. The engraving appeared first in the Bee-Keepers' Review for March. Mr. Hutchinson had the following to say, in part, concerning those represented in the picture:

It is a fortunate fact for the readers of three of the leading bee-journals, that the editors are really and truly friends. Instead of wasting their time and energies, and using up space in their journals, in "spats," they all pull together for the good of the pursuit to which their journals are devoted.

When the Wisconsin bee-keepers last met at Madison, these three editors met by appointment at the Chicago, Milwaukee & St. Paul station in Chicago, went together to Madison, and whiled away the time on the way by discussing bee-journalism—each trying to learn from the experience of the others how he might improve his own journal.

E. R. Root was called home from Oberlin College, some 15 or 20 years ago, to help his overburdened father; and, gradually, he workt into the editorial harness, until, at last, he was "given head," not only in Gleanings, but in the revisions of the "A B C" book. Mr. Root has had exceptionally good advantages for becoming a first-class bee-keeping editor. He was brought up with the bees, and in connection with the largest factory there is devoted to the manufacture of bee-supplies. If I were to point out his leading characteristic, or, at least, the one that has had a great deal to do with the building up of Gleanings, I should say that it was his affability—the faculty of making and keeping friends. An editor has many times to disagree with his correspondents, but Mr. Root seems to be able to do this without giving offense. There is a great difference between telling a man that he is a liar, and explaining to him where he has made a mistake. Mr. Root takes the latter course.

About the time that Bro. Root began working on Gleanings, I found George W. York at work for Mr. Thomas G. Newman on the American Bee Journal. After working several years for Mr. Newman, Mr. York had the "nerve" to buy the American Bee Journal. Only a publisher knows what excellent business management there must be to furnish such a paper as the American Bee Journal at $1.00 a year, but Bro. York has shown himself equal to the emergency. He has imbibed that Chicago spirit of push and enterprise that succeeds where common mortals fail. If I were to point out Bro. York's leading characteristic, I should say it was exactness, or correctness. That disposition that leads one to say, "first be sure you are right." And, having decided that he is right, Bro. York sticks to it.

Working so long on a bee-journal, attending so many conventions, reading so much bee-literature, etc., have enabled Bro. York to become pretty well posted upon things apiarian; and he succeeds in making a most valuable journal—one that would be mist, and *sadly* mist, were it to drop out of the ranks.

When it comes to writing of myself the pencil halts. I have written in the Review so much about myself that I begin to fear that it may be proving tiresome; but I would like to say this, that of late I am becoming more imbued with the spirit of trying to *help* bee-keepers, to be of some real and lasting benefit to them; to arouse, encourage and inspire them; to set them to thinking; to lift them out of ruts; and to lead them to look upon their business as a *business*. It is all right to tell a man exactly how to perform a certain piece of work, but sometimes it is of more benefit to rouse him, and set him to thinking out problems for himself.

We have no comment to add to the foregoing, except to say that we are pleased to present to our readers the portraits of our two "fellow-sufferers."

THE MAY LADIES' HOME JOURNAL.—Some of the many excellent features of the May Ladies' Home Journal are: "The Brilliant Social Reign of Harriet Lane," "When John C. Calhoun Went a-Wooing," "When the Animals Escape from the Zoo," "Some Remarkable Cases of Double Personality," "My First Colony of Bees," and Clara Morris' "Frank Sen," the romance of a little Japanese girl acrobat. To those arranging for a summer holiday Edward Bok offers some pertinent suggestions, and the methods of "Preserving a Husband in Summer," and "Keeping Summer Boarders with Success," are dogmatically detailed. The admirable pictorial features include a page drawing, "President Lincoln's Call for Volunteers," by W. L. Taylor; "In the Fold," the first prize picture of the 27,000 photographs submitted in the Journal's recent contest; a page of Miss Gertrude Kasebier's photographs—the first of "The Foremost Women Photographers of America" series—and two pages giving "A Glimpse of Picturesque Canada." There are three architectural articles, and seasonable contributions on gardens, flowers, lawns, cooking, and needle-work. There are also four pages from the Journal's fashion writers and artists. By The Curtis Publishing Company, Philadelphia, Pa. One dollar a year; ten cents a copy.

SOMNAMBULIST for several years has been one of the most interesting and helpful contributors to the Progressive Bee-Keeper—often being referred to as a "dreamer." "Wandering sleepy-head" would hardly be appropriate. A Stray Straw in Gleanings in Bee-Culture reads thus:

Somnambulist thinks that bee-keepers too often say "I" when they should say "we," thus giving due credit for the help of faithful wives. Amen, say I. Also that wives, like queens, should be chosen, not for beauty, but for real worth. Now, here's what puzzles me: One who places such high estimate upon the value of wives, and shows such discriminating judgment regarding them, would surely be expected to have a wife of the best type; and yet, if I am rightly informed, Somnambulist, who is no longer a spring chicken, has never had a wife.

If *we* are "rightly informed," we can't imagine what "Sommy" would do with a wife.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., MAY 9, 1901. No. 19.

Editorial.

Strenuous Queen-Rearing is the subject written on by Mr. J. H. Martin, as willbe seen by the report of the California convention in this number. The paper treats upon a new phase in queen breeding and distribution. We understand that the plan was almost unanimously endorst by those present at the meeting. Mr. McIntyre made an estimate that if a bee-keeper could definitely depend upon supplying a large number of bee-keepers with queens, and without advertising and the uncertainties of the present method, that queens could be reared for 15 cents each. The members present were willing to pay 25 cents each, and upon that basis the few present were ready to place an order for 1,000 queens. Upon this basis Mr. McIntyre would probably receive orders in his own county, and in Los Angeles county, for over 5,000 queens; but not being prepared for such extensive queen-rearing just at present, the matter is under advisement, meanwhile others are thinking of entering the field and working upon this plan.

Now the questions before the fraternity, or rather before the queen-breeders, are, Can good queens, such as Mr. Martin's paper calls for, be bred for 25 cents each? Can a queen-breeder rear from 5,000 to 10,000 good queens per year? Or, Mr. Queen-Breeder, how much will you charge per month for your services while rearing queens for from 50 to 100 bee-keepers?

The object in adding the foregoing is that a healthful discussion of the matter may be brought out. Mr. Martin thinks his plan is the right one for improving the working qualities of a large number of colonies of bees.

Are Old Combs Objectionable?—It is a fact that fashion seems to have at least a little to do with practices of bee-keepers in different parts of the world. In this country it is the fashion to continue to use brood-combs when many years old, while in other countries they are considered objectionable when ten, five, and in some places three years old. The rejection of old brood-combs comes from the belief that the cocoons left by successive generations of young bees make the cells so small that bees reared in them can not attain their full size. A few in this country have said that they found bees reared from old combs were a third smaller than others, but others say they can see no difference when the combs are 20 years old or older. One writer in Gleanings in Bee-Culture argued that bees must necessarily be smaller because the cocoons left from year to year do not leave room for full development. But if that proves anything it proves too much. Old combs may be found in which the septum measures $\frac{1}{8}$ of an inch, and it was shown in Gleanings in Bee-Culture that if the amount of cocoons left on the cell-walls was the same as at the bottom, the inner diameter of such cells would be so reduced that instead of measuring 5 to the inch it would take 13 of them, and it would take $6\frac{3}{4}$ of the bees reared in them to weigh as much as an ordinary worker. No one pretends that such dwarfing ever takes place.

Some worker-comb 25 years old was measured by E. R. Root, and he found that while the septum was $\frac{1}{8}$ of an inch thick the cell-walls were not materially thickened. It seems that while the bees leave the bottoms of the cells undisturbed they continually remove the cocoons from the side-walls, so that by drawing out the cell-walls a little the cell is made as large as ever. From this drawing out of the cell-wall it happens that very old comb measures an inch in thickness, while comb newly built measures only $\frac{1}{4}$.

Another item that should not be disregarded is the preference of the bees themselves. Give them their choice between an old black comb 20 years old, and a fresh comb in which little or no brood has ever been reared, and they will promptly choose the old comb, whether it be for the rearing of brood or the storing of honey. It is also claimed that bees winter better on old than on new combs.

Honey-Adulteration in Illinois.—From the First Annual Report of the State Food Commissioner of Illinois—1899-1900—we take the following as written by State Analyst E. N. Eaton last December, which bears directly on this subject.

HONEY.

Pure honey may be defined as the nectar of flowers, transformed, and stored in the comb by the honey-bee. Extracted or strained honey is the same article removed from the comb by man, usually by centrifugal force. Comb honey can only be adulterated by the bee which seems to have a patent on capping the cells. Extracted honey, next to vinegar, is more universally adulterated than any other staple food products.

In Minnesota, before the honey clause was added to the Food Statute, about 33⅓ percent of extracted honey proved to be adulterated. In Illinois about the same ratio of adulteration was proven to exist. Last year a committee acting for the National Bee-Keepers' Association, secured a large number of samples in Chicago. Being at the time employed in commercial work, I examined the samples for the Association, and found that more than 50 percent were adulterated. The present month finds extracted honey again seeking the winter trade. Inspector Mrs. Frank Hubbard has visited many stores in Chicago, and reports very much less extracted honey offered than the year before. This is owing to the enforcement of State law requiring the labeling of adulterated honey, thus driving a dishonest competitor from the market. While none of the samples taken this winter have as yet been analyzed, many of them are of those brands which proved genuine in former analyses.

The most common adulterant of honey is glucose, altho adulteration with cane-sugar and invert sugar is possible and sometimes practiced. The adulteration thus far discovered on the Illinois market has been of the cheapest and most gross kind—glucose flavored with a small slice of honey in comb.

The Illinois Food Commission is doing a good work for everybody in this State. There are still some weaknesses in the present law under which the Commission are working, which, when removed, will tend to make their efforts still more effective in the future. We hope the strengthening amendments will be approved during the present session of the State legislature at Springfield.

A Woman With 500 Colonies.—Gleanings in Bee-Culture has a report from Lydia Crawford Harris, who last year from an apiary of 166 colonies obtained 160 60-pound cans of extracted honey, and 171 cases of comb honey. She also has two other apiaries—in all 500 colonies. If something is not done to stop this sort of thing there is no telling to what it will lead. Instead of being the down-trodden, submissive creature that a properly constructed woman is expected to be, Mrs. Harris boldly declares her independence of the "lords of creation" by saying:

"As we women in Colorado enjoy all the rights of voting, from the lowest county officers to the President of the United States, I propose to operate these yards with women help."

As a comment on the above, Editor E. R. Root adds this:

"If the right of franchise has this effect on the gentler sex, let's give the women a chance. If the women of the land could vote there would be less of jobbery and wickedness in high places. I'll risk the women, every time."

A Smoker With Double Bellows has been shown in Gleanings in Bee-Culture which operates so that a puff is given as usual at the pressing together of thumb and fingers, and another puff as they separate; but the two puffs give no more smoke than a single puff of the ordinary smoker. A Stray Straw suggests that a smoker could be made to give a perfectly continuous blast by having bellows after the fashion of a melodeon, allowing no possible sucking of smoke into the bellows, but there would be a loss in the strength of the blast.

Convention Proceedings.

Report of the California Convention.

The 11th annual convention of the California State Bee-Keepers' Association was held in Los Angeles, Feb. 25 and 26, 1901. There was a small attendance, but all were hopeful, and were preparing for a good honey harvest.

Secretary McIntyre explained some of the advantages of the new State Law in the interest of bee-keeping, thru the efforts of Assemblyman R. M. Clark, of Ventura, assisted by other southern legislators. The new law reads as follows:

AN ACT

To promote the Apicultural Interests of the State of California by providing County Inspectors of Apiaries, and defining their duties, and providing for their compensation, and repealing the act entitled, "An Act to authorize the Board of Supervisors of the several counties of this State to appoint Inspectors of Apiaries, and provide for their compensation, and defining their duties, and for the further protection of Bee-Culture." Approved March 13, 1883.

THE PEOPLE OF THE STATE OF CALIFORNIA, represented in Senate and Assembly, do enact as follows:

SECTION 1. Whenever a petition is presented to the Board of Supervisors of any county, signed by ten or more persons, each of whom is a property-holder resident of the county, and possessor of an apiary, or place where bees are kept, stating that certain or all apiaries within the county are infected with the disease known as "foul brood," or any other disease which is infectious or contagious in its nature, and injurious to the bees, their eggs, or larvæ, and praying that an inspector be appointed by them, whose duty it shall be to supervise the treatment of said bees and apiaries as herein provided, the Board of Supervisors shall, within twenty days thereafter, appoint a suitable person, who shall be a skilled bee-keeper, Inspector of Apiaries. Upon petition of ten persons, each of whom is a resident property-holder, and possessor of an apiary, the Board of Supervisors may remove said inspector for cause, after a hearing of the petition.

SECTION 2. It shall be the duty of the Inspector in each county to cause an inspection to be made, when he deems it necessary, of any or every apiary, or other place within his jurisdiction in which bees are kept; and if found infected with foul brood, or any other infectious or contagious disease injurious to the bees, or their eggs or larvæ, he shall notify the owner or owners, person or persons, in charge, or in possession of said apiaries, where bees are kept, that the same are infected with foul brood, or any other disease infectious or contagious in its nature, and injurious to bees, their eggs, or larvæ, and he shall require such person or persons to eradicate and remove such disease or cause of contagion within a certain time to be specified. Said notice may be served upon the person or persons, or either of them, owning or having charge, or having possession of such infected apiaries, or places where bees are kept, by any Inspector, or by any person deputized by the said Inspector for that purpose, or they may be served in the same manner as a summons in a civil action. Any and all such apiaries, or places where bees are kept, found infected with foul brood, or any other infections or contagious disease, are hereby adjudged and declared to be a public nuisance; and whenever any such nuisance shall exist at any place within his jurisdiction, or on the property of any non-resident, or on any property the owner or owners of which can not be found by the Inspector after diligent search, within the county, or upon the property of any owner or owners upon whom notice aforesaid has been served, and who shall refuse or neglect to abate the same within the time specified, it shall be the duty of the Inspector to abate the same, either by treating the disease, or by destroying the infected hives, together with their combs and bees therein.

The expense thereof shall be a county charge, and the Board of Supervisors shall allow and pay the same out of the general fund of the county.

SECTION 3. It shall be the duty of the County Inspector of Apiaries to keep a record of his official acts and doings, and make a monthly report thereof to the Board of Supervisors; and the Board of Supervisors may withhold warrants for salary of said Inspector until such time as said report is made.

SECTION 4. The salary of the County Inspector of Apiaries shall be three dollars per day when actually engaged in the performance of his duties.

SECTION 5. An Act entitled, "An Act to authorize the Board of Supervisors of the several counties of this State to appoint Inspectors of Apiaries, and provide for their compensation, and defining their duties, and for the further protection of Bee-Culture," approved March 13, 1883, is hereby repealed.

SECTION 6. This act shall take effect and be in force from and after its passage.

JOINED NATIONAL ASSOCIATION.

J. H. Martin then brought up the question of the advisability of the members of the State Association joining the National Association, and after a discussion of the proper method of taking this admittedly wise act, it was agreed that the Association join the National organization as a whole.

ADULTERATION OF HONEY.

G. S. Stubblefield spoke of the prevailing flagrant adulteration of honey, and urged that steps be taken to fight the evil. He said he knew of two or three parties who are handling adulterated goods, and remarkt that no matter how dry the year, there always seemed to be plenty of goods on the market. The stuff is concocted in syrup factories, from glucose, he said. He thought there ought to be a committee appointed to investigate the matter. The State law covered the evil, but was not enforced. The district attorney had promist to take up any case of honey adulteration brought before him.

Secretary McIntyre suggested that every member of the Association consider himself a committee of one, authorized to investigate honey adulteration in their respective districts.

ELECTION OF OFFICERS.

At the time of the election of officers the following were chosen to serve the coming year: President, G. S. Stubblefield; vice-presidents, H. E. Wilder, G. W. Brodbeck, Robert Wilkin, E. A. Roney, and T. R. Canady; secretary and treasurer, J. R. McIntyre, Sespe; executive board, J. H. Martin, E. Hart and G. W. Brodbeck.

A general discussion of the affairs of the bee-keepers' exchange which has frequently lapst and languisht in late years, followed; but while the necessity for an exchange was admitted, no tangible results came of the arguments.

President Wilkin gave an interesting talk on the progress of bee-keeping during his forty years' experience, recounting the many mechanical improvements that have been made, and emphasizing the need of co-operation among apiarists.

CONDITIONS IN LOS ANGELES COUNTY.

President Brodbeck, of the Los Angeles County Bee-Keepers' Association, stated after the close of the session that conditions in Los Angeles county were favorable on account of the rains, but that the continued drouth had greatly decreast the number of colonies. Four years ago the estimated production was 4,000,000 pounds. Since then 75 percent of the bees have died. This season, however, is so far much more favorable than the season four years ago, and therefore there may be a very fair yield, notwithstanding the decrease in colonies. Most of the apiaries in this county are situated along the lower mountain sides, from San Fernando to the eastern county line, and in the hills around San Pedro.

T. O. Andrews, of Orange county, described the state of the honey-business along the Santa Ana river, where he has owned several apiaries. Seven years ago he took 18 tons from 325 colonies, distributed in four apiaries. Later on, when there was a good flow, he took 27 tons. That year he could grasp with one hand seven kinds of growing wild flowers, but now there is nothing blooming but alfileria, and even that was not good for honey purposes last year. He had lost heavily, his stock dwindling to 150 colonies. He was hopeful for the near future, however.

Mr. J. H. Martin read the following paper on,

Strenuous Queen-Rearing.

In these twentieth-century days we hear much about strenuous living and working. I suppose strenuous is only another term for high-pressure, and we have had high-pressure farming, high-pressure poultry rearing, high-pressure commercialism, and high-pressure many other things; but I have never heard much of high-pressure bee-keeping.

High pressure is, however, too much out of date to apply to twentieth century bee-keeping, and "strenuous" is the term; and I have an idea that, to commence at the root of the matter, we need a more strenuous queen-rearing.

Let us consider the subject. During the past season I found a strain of bees in the apiaries I was managing that were so far superior to the rest that, had the bees all been bred from the queen of that colony, our honey crop would have been increast by several tons.

The discovery that this strain were such good rustlers for honey was not made until the season was well advanced; and now, in order to get the full benefit from that strain, it must be gradually diffused thru the whole apiary.

When I find a strain of bees like those mentioned I am impatient to get the whole apiary up to that standard, and the need of queens when I want them, and the lack of time to rear them when my energies are devoted to the extractor or at other work. In fact, I am strenuous at something else, and need an extra-strenuous plan to supply the queens.

I think every bee-keeper present has observed that not one apiary in a hundred is properly queened, and I think we all have a dim sus

picion that our own apiaries are not up to the standard we desire. We hear of golden yellow queens, leather color, long tongues, and even $100 queens. To make a good start we should like one of those $100 queens; but after considering the lank condition of our purse we finally conclude to send for a dollar queen, and that is about as far as we get this year; but next year, if we have a big crop of honey, we will do better. Our dollar queen may be good, bad, or indifferent; and, whichever it is, we do not get much out of her.

Then you know that queen-rearing has become a great science of late years. Alley's plan used to be good enough for me; but now it is dipping-sticks, tooth-picks, transfer of royal jelly, transfer of larvæ, and putteration until your head swims. Oh, it is so strenuous!

But I see light at last. When I read Pridgen's plan of making queen-cells by the peck, and queens by the quart, a great load seemed to be lifted from my mind, and I formulated the following more strenuous plans for queen-rearing:

In the first place, every bee-keeper needs the very best queens that can be reared—best in hardiness, prolificness, and notably in the honey-gathering qualities of her progeny.

In the second place, there are but few bee-keepers who have the combination of qualities that will insure their success in modern strenuous scientific queen-rearing. Now, my plan is that a certain number of bee-keepers in a given locality turn their queen-rearing over to an expert in that line of work. A contribution from each bee-keeper interested would enable the expert to commence operations with the best available stock. Each bee-keeper in this district should agree to take a certain number of queens per annum; and, having a definite number of queens to rear, and a large number of them, the expert could rear them at a minimum cost to the bee-keeper, and at the same time with a good profit to himself.

A person devoting his entire attention to queen-rearing will strive to improve his stock, and his patrons will receive the full benefit, or the patrons in this case would have an influence in keeping the stock up to an approved grade.

Our usual plan is to send for a breeding-queen and rear daughters, granddaughters, and great-granddaughters from her, and trust to a promiscuous mating with our drones.

Our expert could be so located as to control the mating of queens with selected drones, and the bee-keepers in this district would get queens only one removal from the original, or daughters, and from the very best stock in the country. In our present haphazard way we dilute the blood too much by the many removes from the original stock, and this would be entirely avoided thru our expert queen-rearing station.

This plan is in line with the division of labor which at present is recognized as the most effective way for accomplishing great results; and the question is, Are the bee-keepers ready for this advance in their methods of management?

I will leave the question to you for solution, believing that, if it is put into practice, the honey-producing power of our apiaries will be advanced many fold. J. H. MARTIN.

Contributed Articles.

Long-Tongued Bees—Fad or Fallacy, Which?

BY G. M. DOOLITTLE.

Of late years some of our bee-papers start off with some new idea, or some old one revived, and in a little while the heads in all beedom seem to get twisted out of the "straight and narrow path," and run off after an "apparent something," which, a few years later, is dropt as if it never had an existence, with hundreds and thousands of hard-earned dollars wasted over the hobby or fad.

The fad now "on" seems to be "long-tongued bees," the fad having run long enough, and the excitement become great enough to warrant asking $10, $15 and $25 for queens, giving bees having a certain length of tongue-reach. And our good Editor York is compelled to fall into line with the announcement at the head of his advertisement, "Long-tongued bees are demanded now." Of course, the "*fad*" has caused the demand, and no one blames the editor for heading his advertisement in accord with that truth. But is the fad founded on truth, or on a fallacy? That is the question that should be askt in all seriousness, before more money is wasted on the fad.

Long-tongued bees are either better workers, or they are not better. Then, they may work on red clover where that abounds, and be a great advantage there, without being any more industrious at gathering honey from apple-bloom, basswood or buckwheat, the nectar from which any bee could reach having a tongue not more than half as long as the shortest tongues measured. That being the case, long-tongued bees would be an advantage only to those residing where red clover and other long-tubed flowers abound. This brings me to look into this part of the matter, for red clover has not blossomed to any extent in this locality for the past 15 years, owing to a "midge" or very small larva which works in the head just before it would blossom, thus reducing what used to be fields "red with clover blossoms" to fields having a dull-brown color, which is assumed at blossoming time from the workings of this pest in central New York. So, if these long-tongued bees are not better otherwise, their working on red clover is of no advantage to me. So I turn to the testimony:

On page 220 of March 15th Gleanings in Bee-Culture, I find these words:

"The movement for longer tongues is simply to get the red-clover crop of the North, which now is practically all wasted. The bees NO ONE CLAIMS *would be any better except on that account.*"

The italics are mine in the above quotation, and were put there to draw attention to the words, as they point to a fallacy somewhere. If the above is correct, then these long-tongued bees are of no special advantage to me, nor to two-thirds of the acreage of North America. And yet I find parties in the extreme Southern States of Florida and Texas, heading their advertisements, in that very same number of Gleanings, with "LONG-TONGUED QUEENS," just as tho such long tongues was the great desideratum for that Southern country, when according to the reading columns of the same paper *no one should claim they were any better.* But such claims are being, and have been, made. Let me quote a few of these claims:

"Heretofore I could only assert that the bees were superior, that they would store more honey, but I could give no reason why, except that this trait had been developt by years of selection and careful breeding; but now I can say why, or, at least, give a reasonable reason why."

And what is that reason? "They have *very long tongues.*" (Gleanings for Jan. 1st, page 32). If there was any thought about red clover in the author's mind, no hint is given to that effect.

"The fact begins to dawn that bees, in order to make a better showing in their hive than the bees of another, must have long tongues." (Gleanings for 1900, page 882). These words are given in connection with bees living in the State of New Mexico, where no red clover grows, if I am correct. "It is the old, old story. In every case where we have long-tongued bees we have good honey-gatherers." (Page 881, same number of Gleanings). Not the least hint at red clover here, either. "We have now learned the secret of their great honey-gathering qualities. It exists, as I supposed, in the great length of their tongues." (Gleanings, page 813, 1900.) "Another record-breaking queen whose bees have long tongues." (Gleanings, 1900, page 844). "Long tongues and good working qualities go together." "The evidence is still piling up, to the effect that long-tongued bees are the ones that get the honey."

And so I might go on giving quotation after quotation of statements made along this line, without any special qualification, or, if any qualifications have been made they have been so hidden under a lot of rubbish, or so twisted that the reader is led to believe that long-tongued bees are just the thing he should have if he would succeed, no matter about red clover, or in what portion of the country he resides.

Now, as I hinted in the start, long-tongued bees *do* have an advantage outside of the red clover districts, or they *do not*, and to give misleading statements, or tho se actually false, is something that our bee-papers of the present day should not stoop to doing, not even when the motive of gain prompts its advertisers. I am satisfied that long tongues are only of advantage to those in red clover districts, if they are of any special advantage anywhere, for the reason that I have repeatedly had colonies that I considered hardly up to the average during certain seasons, (and would so mark the hive, preparing to supersede their queens in the future), that the very next season would go ahead of many others which I had markt as the best I had in the yard. And such reports have come to me from many bee-keepers in other localities.

Then, there is another thing which casts a shadow of doubt on this whole measuring matter, and that is that many admit that there is nothing of minute exactness about it. Undoubtedly, a bee with a tongue only 15-100 of an inch long can be told from one having a tongue reach of 20-100; but with the most exactness, and the nicety of the instruments used at the Medina establishment, we have this strange admission by E. R. Root, found on page 579 of July 15th Gleanings for 1900:

"All the tongues I measured would reach easily 15-100 inch. By exerting a little pressure on the head of a decapi

tated bee just chloroformed I could get most of the tongues to stretch to 18-100."

With such an admission as this from one who has all the paraphernalia in his establishment for nicety of work, what can be expected from the thousands of bee-keepers that Dr. Miller would have set at this work? And so one of my correspondents can be excused for asking me the question, "Do you not think that one of those queens advertised on page 240 of the American Bee Journal at $10.00, could, 'by exerting a little pressure,' have its tongue stretcht so as to make a $25.00 queen of it?"

There are times when it is necessary that a "halt should be called" by some one, and as no one has seen fit to do this, I have felt it my duty to do so, that too much money need not be sunk on this latest fad, even if we do not call it a fallacy. Onondaga Co., N. Y.

Do Bees Help to Spread Pear-Blight?

BY PROF. A. J. COOK.

OUR good friend, J. H. Martin, so favorably known to all bee-keepers, writes me from his present home as follows:

"I herewith hand you a clipping from one of our local papers. The supervisors and commissioners referred to are from Kings County. As I understand, the blight is in the blossom and so it is possible that it is spread by the bees. Would it not be well for you to comment upon this subject in the American Bee Journal and give us the truth of the matter?"

The following is the clipping:

"The supervisors have a novel question under consideration. It is whether bees are responsible for the spread of pear-blight, and what action, if any, should be taken in the matter. N. W. Motheral and J. F. Tilton, Horticultural Commissioners, gave their opinions on the matter. Mr. Motheral asserted strongly that bees spread the pear-blight, and should be condemned as a nuisance to the orchardist. Mr. Tilton is not so positive."

There is no doubt but that this question is a very important one, and certainly bee-keepers will be interested in any experience regarding it. Pear-blight has long been a serious enemy in the pear orchards in the East, and is now working fearful havoc in many places in California. At a recent institute, held at Banning, Riverside Co., there was no topic which called forth so much of interest as did this same one of pear-blight. The people there are much disturbed regarding the matter.

I think it was Prof. Arthur, of Perdue University, Indiana, who demonstrated that pear-blight is a microbe disease. If I remember correctly, he discovered the specific microbe, found that he could grow it in artificial cultures, and could by their use inoculate healthy trees. I think Prof. Arthur suggested that bees might be a means of spreading this malady. It is well known that the blight attacks the end of the twig and works inward toward the trunk of the tree. Of course the germs are in the sap, and might very likely be in the pollen, altho, so far as I know, their presence there has never been demonstrated. The pollen is carried to the stigma of the flower which, from its delicate sensitiveness, we would suppose, might be a very vulnerable point for infection. Thus the conjecture that bees spread the disease would not be an unreasonable one. Until we find, however, that the microbe is in the pollen, we certainly have a right to place a large interrogation point after this theory. Mr. Motheral or any one else who speaks with assurance in this matter, would be rash, indeed. To declare bees a nuisance on this account is entirely uncalled for.

In the early spring, the swelling buds of both flower and leaf would be the most susceptible to microbe influence which may come entirely without the aid of insects. If insects are the medium of transportation, there are many others than bees, and removing the bees would not bring security. We know that without the honey-bee, complete pollenization will not occur, and thus to declare bees a nuisance on behalf of the pomologists would be to stand in their very light, and would work them incalculable injury.

Many leading scientists of the East, especially Professors Waite and Fairchild, of the Agricultural Department, have given this matter the most careful attention. It is significant that they urge most strongly that fruit-growers take all pains to secure the presence of bees in the near precincts of their orchards. The supervisors and commissioners of Kings County can not afford to take a back step in this important matter. Los Angeles Co., Calif.

No. 4.—Practical Lessons for Beginners in Bee-Culture.

BY J. D. GEHRING.

(Continued from page 262.)

"NOW, Mr. Bond," I continued, seeing that he lookt less incredulous, "had I known less about the swarming capers of bees I could not have known how to interpret these queer proceedings. By putting this and that together, however, I had good reason for the conclusion that the bees I heard and saw above the tree were the scouting party which had left the swarm as soon as it had selected a place to cluster; and, that the peculiar noise they made as they flew about the top of the tree where, they knew, the swarm had settled down to wait for their return, was the signal always given on such occasions, and which all bees seem to understand.

"These seem to be trivial matters to relate just now, I know; but there are ever so many such things in the course of a bee-keeper's experience, and yet they are important."

"But," queried Mr. Bond, "what has all this to do with *my* way of hiving swarms? I don't, somehow, catch on."

"I'm coming to that," I replied. "These explanations were necessary in order that you might easily understand the application; which is this:

"When you take your box-hive and set it directly under, or near, the place where the swarm has settled, and after getting the bees into it, and, as you think, preparing to go to housekeeping, you leave them there. You don't even take the trouble to look at the hive again a few days after. Well, sir, in a majority of such cases the scouting party comes back soon after you leave and takes that swarm away. That is the reason I said you would find many of those hives, standing around in out-of-the-way places, empty, when you examine them.

"I lost a swarm one time under similar circumstances, when I was yet a green hand at the business. The bees had clustered on a low-hanging limb of an apple-tree. I took an empty hive and placed it under the cluster. Then I slowly—that is, gradually—shook the bees off, and thus got them all in. Then I sat down on a box not far away and watcht them, intending to carry them to the apiary after sundown.

"Well, sir, while I was sitting there I heard a buzzing noise above the tree, and saw a great many bees flying about in an excited manner, making more noise, I thought, than bees ordinarily do. Before I could take a step, or think a thought, that swarm poured forth and joined the scouting party; and off they went like a whirlwind. Had I known enough to remove the hive, after securing the swarm, far enough away to be out of sight of the returning scouts, I wouldn't have lost that swarm.

"Now, Mr. Bond, I am well aware that it may appear to you that I'm telling you all this because I like to talk about bees. Bee-keepers have a reputation, you probably know, for being out-and-out cranks on the subject; and you surely know that nearly all cranks are great talkers. Well, I want to assure you that I am not 'talking thru my hat.' The information I am giving is of no slight importance. Should you conclude to keep only one or two colonies of bees instead of 50, and to apply to those two the lesson I am giving you, you would soon find out that every item of seemingly trivial detail will be useful at one time or another. If you go at the business in earnest you will soon learn that you can not succeed, all around, unless you know how to handle a swarm when it leaves the parent hive, and how to prevent its running off to the woods either before or after hiving it.

"Permit me to tell another thing before I forget it, Mr. Bond. Long before I became a bee-keeper myself I often observed the fact that those that are not fully informed in bee-lore seem to put a low estimate on a swarm of bees. If they knew what an early swarm may really be worth in a favorable season they would surely try to keep it. And, I'm sorry to say, even reputable bee-keepers are not all as well informed on this *vital* point as they should be. That this assertion is true I can show by relating two incidents from my experience which illustrate the fact itself, as well as the result of the ignorance that led to it. The first case was as follows:

"It was my first season's experience in bee-keeping. I had only two colonies, but they were boomers. Both had been transferred the winter previous, one from a cracker-barrel, and the other from an old-fashioned box-hive. Some time when it's more proper and convenient than just now I will tell you all about that job of transferring bees. It was interesting in several ways, I assure you. I lived in Mis-

souri then, where they tax bees, honey on hand, corn in the crib, and potatoes in the cellar—not forgetting the poor man's working tools and the poor woman's sewing machine.

"About a mile distant from my home lived a man—I shall not tell you his name because he is out of business for good—who kept bees, had kept them, he told me, 'for more'n 15 years.' He had 14 colonies, mostly in 'Langstroth hives,' when I made his acquaintance. I tried to take lessons of him that summer, but I soon found out that he had never been in Father Langstroth's school, tho he used his hive invention. Besides, he crankt several queer notions about bees—their nature, and ways of doing things—that I could not make up my mind to adopt.

"Well, one beautiful day in early May this friend sent me word that he had a very large swarm out on an apple-tree, which I could have for one dollar if I cared to bother with it. Of course I went for that swarm and brought it home in my bee-box. Within a week I got three more swarms in the same way, and at the same price, and of the same kind friend.

"I had learned from 'Bees and Honey'—an excellent little book on bee-culture, for beginners especially—how to house a new swarm so that it would lose no time monkeying around, but go right to work storing honey for me. As compensation for *knowing how*, I took from those four one-dollar swarms 350 pounds of white clover honey, in sections most beautifully filled and finisht—all before the end of the same month.

"Some time during the following October my friend sent for me one day. The messenger said: 'Would you please come down and take some honey off the hives?' But it was already late in the day, and misty clouds shut out the sun's cheery shine and heat, hence I sent word back by the messenger that I wouldn't do such work on such a day for the best friend I had; but that I would come down the first *suitable day in the morning*.

"Well, a few days later I went down. My friend pointed out to me two hives, of the 14, from which he wisht me to take what surplus honey I might find. The others, he thought, hadn't done anything; and most of them had no supers on, anyway.

"The two hives he showed me were a sort of a hopper-shaped concern; 'The Mother-Hubbard hive'—or something like it—I think he called it. The bee-entrance was at the small end of the hopper, which stood grandly upon four short legs, and wore a conical-shaped hat or roof. But that cunningly devised bee-entrance at the extreme lower end of this so-called 'hive' made such a deep impression upon my then very susceptible mind that I have never forgotten it. Besides, my friend—who was evidently quite proud of those two hives—took especial pains to explain to me the superior excellence of that particular feature of the hive.

"'You see, Mr. Gehring,' he said, 'that bee-entrance, locatcd as it is, acts as a ventilator to the hive, like a chimney to a house; for there are holes bored near to the roof, you know. Then, again, that opening acts as an automatic dirt-trap—the hive cleans itself, you see, because the dirt and dead bees fall right down thru. Besides all that, Mr. Gehring, you can see for yourself that *mice* can't very easily get into the hive by way of such a contrivance as that.'

"Well, I opened one of the hives and found quite a *mess* of honey, mostly in small frames inside of a sort of a box-arrangement on top of the three-cornered brood-frames, and some of it between and above these little frames. The second hive was in the same condition. I called at the kitchen-door and got a large dish-pan, into which I put the honey from the frames, and from odd spaces in the hives. Then I examined all the other hives for honey, but found none. The dish-pan full was the whole yield from 14 hives!

"When I carried the honey to the house my friend—who had kept himself out of sight while the honey harvest was going on—ventured to come to the door to settle with me, as he said. He seemed to be well pleased with his crop of honey, and smilingly inquired how much I got from those four swarms. I told him, and added that I would probably get another hundred or more from those same swarms before the season ended; and leave them enough each to winter on very nicely.

"I don't know what he thought when I told him that; but I shall never forget how he lookt. It was easy to guess, however, how he estimated the comparative difference between his way of keeping bees and my way of bee-keeping, for he sold me his whole outfit before winter for the paltry sum of $15!

"The second case to which I alluded, as I presume you remember, Mr. Bond, happened in this way:

"One of my near neighbors had two colonies of bees in his back yard—both in box-hives. One Sunday morning word was sent to me that a big swarm had come out of one of the hives and was hanging in a bunch from a limb of an apple-tree in the front yard, and that I could have it by coming after it.

"My neighbor was a member of the United Presbyterian Church, and a strict Sabbatarian; hence he could not violate his conscience by furnishing that swarm of bees a home. But I, being a minister in good standing in the 'U. S.' Presbyterian Church, had no such scruples to bother me; hence I secured the swarm—cut the limb with a small saw, and carried it home with the cluster hanging to it—and hived it, and gave it a frame of brood, and two of honey, that same Sunday.

"It was a late swarm, and it was a rather poor honey season; but that swarm filled, and finisht nicely, two supers of 28 sections each. One evening I took four of the nicest sections and presented them to my Presbyterian brother, and told him all about that swarm's doings under my care; and that, if he wanted it, I would sell it to him for $10, hive and all."

(To be continued.)

No. 4.—Drone-Bees and Their Utility.

Can We, and Shall We, Control their Production?

BY C. P. DADANT.

If the reader remembers my previous articles on the subject, he knows that we have plainly shown that there is a decided advantage in decreasing the number of drones in hives that are undesirable for breeding purposes, and that this advantage will be derived, in part, from a greater saving of honey. The approximate amount of profit to be earned from the prevention of drone-rearing, or from the excess of it, is, however, difficult to establish. By following the method mentioned, of removing drone-comb, and replacing it with worker-comb, we not only prevent in a large measure the production of the idlers, but increase our chances of a greater production of worker-bees, which, costing no more to rear, will yet help increase the stores instead of consuming them.

In the relation of my summer trip to Europe, and of my attendance at the International Bee-Keepers' Congress, I mentioned the discussion that took place on this very question. The matter had perhaps more importance to the bee-keepers of Europe than we could place upon it, because of the very great divergence of opinions exprest over there, by some noted bee-keepers. A French bee-lover, by the name of C. M. Weber, has written a poem on bees, somewhat after the fashion of the English Dr. Evans, and in this work he has asserted that each drone consumes during his life, at least five grammes of honey, or in other words, that it takes but a hundred drones to consume, from their birth to their death, over a pound of honey. If we take such an assertion seriously, the honey consumption by the drones of a colony would be enormous. This would mean that the drones produced in a square foot of comb could do away with 50 pounds of honey. To me it is almost to be considered as an absurdity. Some other men have gone still farther and have endeavored to prove that a drone may consume as much as 11 grammes of honey in his life, which would be the equivalent of a pound of honey for 40 drones. These assertions, however ludicrous they may appear, have caused considerable comment, and some discussion, and the experiments that were brought to light before the Congress were evidently intended to refute these too-magnified ideas of the utility of removing drone-combs.

A gentleman by the name of Dufour gave notice of quite extensive experiments which he has made on the subject, and reported weighing 10 colonies at different times during the summer. Half of these colonies contained but little drone-comb and consequently produced but few drones, while the other five contained many drones, and the total result was a difference in production of 15½ pounds of honey in favor of the hives having the least number of drones. The necessity of experimenting on a large scale, in matters of this kind, is shown by the fact that out of these 10 colonies two were selected which were apparently of equal strength, to be weighed regularly, and the difference between the two, in the results, was in favor of the one having the most drones, but it was a mere trifle, less than a pound. So we must recognize the wisdom of this

man's statement, that extensive experiments are needed to get at a good idea of the proportion of gain secured, by the removal of the excess of drone-combs.

But even this rather insufficient experiment strongly evidences the advantage of the removal of drone-comb, for aside from the desirability of preventing the production of inferior stock for reproducing purposes, the narrow margin of profit there shown is more than sufficient to repay us for the labor. In fact it repays it many times. Supposing the increase in production to be only three pounds annually per colony of bees, (where the drones are reduced to the lowest possible number), these three pounds will pay the first season for all the labor and the cost of the worker-comb used, and so in the very first year we already have collected back the cost of the exchange. But we must remember that the combs of a hive last many years. We have colonies in which the entire set of combs has not been removed for over 30 years, and during each year the saving made repeats itself without additional cost, so that we are actually making an investment bringing us 100 percent annually.

I see it asserted that queens will lay drone-eggs in worker-combs rather than do without drone-cells. I have never seen this in any but old queens whose fertility is already impaired. We have, for years, made a practice of removing drone-comb wherever found, and have never noticed that it led to any such results; we have never known bees to tear out any comb to replace it with other comb. The only instances where such a change was made were in the case of combs that had broken down by heat under the weight of the honey, or when old combs had been thoughtlessly removed by the apiarist without being replaced by other combs.

I earnestly solicit those who have leisure and opportunity to make extensive experiments on these matters, reminding them that it is necessary to make these in the most careful manner, and on a scale sufficient to assure the results against possibilities of inequality in the conditions which would materially affect the total returns. I am satisfied that such experiments will clearly evidence the advisability of controlling the breeding of drones in the measure of our opportunities. Hancock Co., Ill.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Get a Bee-Book.

For fear some beginner may not have read them, I want to repeat here some words of the editor on page 244, that should be emphasized:

"First get and read a good bee-book thoroly, then get the bees. Then read your book again. Then you will be ready for a good bee-paper, and, very likely—more bees."

C. C. MILLER.

A Beginner's Questions.

1. I have a hive offered me. When I receive it what would be the first thing to do to have it in trim for the honey-flow?

2. I have a hive that about two years ago a colony died in (of what cause I have no idea)—would it be safe to put another swarm in?

3. The cells are filled with some kind of stuff somewhat resembling a fine sawdust, very filthy, and a few webs, but I can not find any worms. Is there any way to save them?

4. Wouldn't it be a good plan to winter two or three colonies, outdoors, in a kind of enclosure made of boards, back, two sides and a roof, with an opening to the south?

5. When would you put supers on? WASHINGTON.

ANSWERS.—1. I am a little at a loss to know whether you mean a hive or a colony of bees. From your second question I should judge you mean a hive, in which case I should say that probably nothing more is necessary than to see that the hive is clean. If it is an old hive, it is quite possible that it may need a thoro cleaning out. If you mean a colony of bees, the first thing to be done depends upon the first thing that is needed. That might be a good many different things, and some of them might be supposed and answers given accordingly, but even then the very one needed might be omitted.

The first thing that is needed more than all else is a thoro familiarity with a good text-book on bee-keeping. If you have only a single colony of bees, it will pay you well to become familiar with the contents of a text-book. When you have done that, there will be plenty of questions that will come up that may not be fully explained in the text-book, and this department will be ever ready to help out.

2. It will be entirely safe unless there has been foul brood in it. You can find out whether foul brood has been in the neighborhood. If it has not, there can be little risk in using the hive. If it has, then you must try to find out whether a diseased colony has been in that hive, and act accordingly. If you use combs upon which a foul-broody colony has died, you may safely count on the appearance of the dread scourge. But the hive itself, with no combs in it, Mr. McEvoy, the foul brood expert, says may be safely used.

3. Very likely what appears like fine sawdust is pollen, and it may have been workt upon by some kind of insect. The webs are likely the work of wax-worms, but the freezing of winter has gotten rid of any wax-worms that were present. If these combs are given one or two at a time to a strong colony of bees they will be cleaned up, and if not too badly riddled by the worms will do good service.

4. Such an arrangement is often used with good results.

5. One way is to watch for the first beginning of white wax put by the bees upon the upper part of the combs and at once put on supers when it is seen. Another way is to put them on when you see the first flowers upon the plants from which you expect your honey harvest.

A Beginner's Questions.

Last September I bought some Italian bees in double-walled Langstroth hives, "Langstroth on the Honey-Bee," Cook's "Bee-Keeper's Guide," and the American Bee Journal for one year, which I enjoy very much. My wife says that I have had bees in my bonnet all winter. But I notice that I'm not the only reader of the Bee Journal in my home!

May 1st I return to the country and my bees, and there are several things that I would like to know which do not seem to be in the bee-book.

1. How can I tell if my colonies are strong?

2. How often should the hives be inspected? and how often can they be without injury?

3. Should all the frames be taken out? (to be out at the same time), and how long left out?

4. How can I tell if the frames are "well covered?" and does "frames well covered" mean all the frames in the brood-chamber?

5. Are particular frames used for brood? and honey?

6. Do a May queen and nucleus usually yield surplus honey the first year?

7. Do queens go out for a flight after their wedding-trip?

8. Is there danger of using too much smoke?

9. How may I tell if there is a good honey-flow?

10. How long does it take honey to ripen?

11. When is the capping of honey done?

12. After being stung, what is the best method of removing the stinger? NEW YORK.

ANSWERS.—1. Look at 'em and see. If in April you find combs covered with bees, and brood in them, you may brag that you have a strong colony. If you find only one or two frames covered, it is very weak. If four, it will come out in good form.

2. That's a tough one. If you mean for the good of the bees, from one to half a dozen times a year may do. If you mean for a crazy-headed fellow who is just beginning, three times daily except Sundays will be about right, also rather rough on the bees. Fortunately, however, they can stand a good deal, and if the hive is only opened when it is warm enough for them to fly freely there is perhaps no appreciable harm if they should be opened once every day. At any rate, remembering how crazy-headed I once was myself and how little I have recovered from it in all these years, I'm not the man to put any restrictions on your tinkering with the bees, always providing you do it when warm

enough. It may not be a good thing for the bees, but it will do you enough good to make up.

3. Generally no need to take out more than one or two so as to make room to move the others freely in the hive. Indeed, if taking out the dummy leaves room enough for easy handling, there is no need to take out any except the one you have in your hand. If, however, you have an empty hive to put the frames in as you take them out, there is no harm in taking out all, for the frames will keep each other warm in one hive as well as another. There are just the two things to guard against in taking frames having combs out of the hive—cold and robbers. If you don't chill the brood, and if you don't start robbing, there is little danger of too many frames being out, or of their being out too long. If obliged to open a hive when the temperature stands only 60 or 70 degrees, try not to have a frame out more than two or three minutes. Perhaps you can judge better by the flying than by the thermometer. If the bees are flying very freely, call it warm; if very few are flying, meddle with the bees as little as possible.

4. A frame is well-covered when there are enough bees on it to cover the whole comb, the bees being close enough to touch each other all over the frame, altho some parts of the frame may not be entirely covered, and some may have bees piled on one another three or four deep. I don't know whether "frames well covered" means all in the hive or not—depends on the connection. If you say a colony has its frames well covered, I should say you meant all; otherwise you would be likely to specify the number.

5. No, and yes. The frames in the brood-chamber are all alike, and if you have a set that are empty you may change them indiscriminately without doing any harm. They are unlike in this respect, that you will not find the two outside combs with as much brood as others, if indeed you find any brood in them. They will be mostly filled with pollen and honey. The rest of the combs will contain both brood and honey, those toward the outside having more honey than the central ones.

6. They may in a good season.

7. Probably not.

8. Decidedly. Use only enough to subdue the bees, and if they show fight use a little more, and keep using it occasionally if you need it. Generally, however, there will be no occasion to use it the second time.

9. Note whether there is an increase of honey in the hives. If the honey-flow is good the bees seem in more of a hurry and more of them are flying. When they are doing a big business some of them will drop down in front of the hive with their heavy loads, and will have to rest there a bit before they rise to enter.

10. I don't know definitely enough to give a categorical answer. The weather, the source of nectar, and other things have to do with the case, and the time may vary much. Sometimes it seems to ripen within two or three days, and sometimes in as many weeks. A section may be two or three weeks from the time the bees commence storing in it before it is entirely sealed, in which case it could not be said that the whole of it was ripened in less than two or three weeks, and yet it would hardly be right to say that any part of it was two weeks in ripening, for the first stored in the section was probably ripe some time before the last, and the last may have been gathered less than a week before it was sealed. While it is true, as a rule, that honey is ripe when it is sealed, there seem to be cases in which it remains unsealed after being ripe, and others in which it is sealed before it is ripe. If you insist that I shall say how long on the average it takes honey to ripen, I should say that in this climate it takes about a week. But I frankly confess I don't know, and shall be glad to learn from some one who has made a study of the matter.

11. As a rule, when ripe; but as before said, there may be exceptions. The exceptions, however, are probably not at all common.

12. The most natural way that would suggest itself to an inexperienced person would be to take hold of it and pull it out just as you would a thorn or a splinter, and the question might seem like a foolish one. But if you take hold to pull it out in the usual way, you will grasp the poison-bag which remains attacht to the sting, and you will squeeze some of the poison into the wound. Scrape it out with the thumb or finger-nail. A quicker way, and one that is just as effective, you will learn by experience when stung on the back of the hand, where a large proportion of stings are received. Slap the back of the hand quickly on the leg with a sort of wiping motion the instant the bee strikes the hand. That will mash the bee, and at the same time it will wipe out the sting if you use force enough.

Swarming Management, Etc.

1. I am just a beginner in the bee-business. I hived some 60 swarms last spring, and some eight this spring, and I have my first yet to lose. I always move the swarm. Now what is the difference? I see some advocate moving the old hive.

2. I have my bees on the lowlands of the river, so I have to scaffold up for them, five or six feet off of the ground. Can I set them on the ground during the summer, then raise them in winter, so as to keep them above high water? I have been thinking of putting them on the ground this spring. CALIFORNIA.

ANSWERS.—1. Putting the swarm on the old stand and moving the old hive is not done for the sake of keeping the swarm from deserting, but to throw the flying force into the swarm, making it strong for storing, and also preventing the issue of afterswarms. If you will try it you may find that with this practice you will get more surplus from the swarm than you will get from both if you put the swarm on a new stand.

2. I see no reason why it will not work all right to lower the hives during the time it will be safe, and it will certainly be much more convenient not to have them so near the sky when working at them.

Perhaps Bee-Paralysis.

What can be the matter with my bees? The colony most affected has almost perisht. The bees crawl or are dragged out of the hive and they then crawl off in the grass to die. Some try to fly but fail. Where one lies during the night a yellow stain is sometimes, but not often, left. They have been that way two months. I am feeding them honey. They are in Langstroth hives. ARKANSAS.

ANSWER.—From the little of description that is given it is not possible to be certain, but the great probability is that your bees have bee-paralysis. If that is the trouble, you will find the affected bees have a trembling motion, are inclined to be black and shiny, and are pulled and dragged about by the other bees. Many cures have been offered, but unfortunately none of them seem to be reliable. It is possible the disease may disappear of itself, and it is possible it may keep on with its deadly work. Some have confidently claimed a cure by making a diseased colony exchange places with a healthy one. It would do no great harm to try the experiment.

Dividing Colonies.

I have 16 colonies and wish to divide them so as to get the white clover honey. I divided last year and put one-half into each hive, but lost the white clover crop, as they put it all in the empty hives, or on the four sheets of foundation that I put in place of the four that I took out. I use the eight-frame dovetail hive. I wish to requeen from two queens that I got last fall. Would I better use the nucleus plan, as I can get that out of the Journal or the "A B C," as I have both? ILLINOIS.

ANSWER.—You will do well to use the nucleus plan both for rearing your queens and making your increase. That will allow you to keep most of your colonies strong for storing. When you cut a colony right in two, neither half is strong enough to do much storing; but you can from time to time draw a frame or two of brood and bees from a colony that is storing without very seriously interfering. Of course it does make a difference but nothing like the difference it does to take away half the force.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

The Premiums offered this week are well worth working for. Look at them.

The Afterthought.

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

INSECT HONEY ON "CLOUD REST."

As told on page 196, Prof. Cook certainly found scientific "nuts and raisins" on Cloud Rest in the Yosemite—great drops of nectar secreted by pine aphides. And it was doubly blest in having intelligent tasters at hand who did not know what the origin of the nectar was. Quite interesting to see that all the party pronounced it of excellent flavor. If some of us should say that bees work on aphide secretion and clover at the same time, and mix the proceeds, and that the mixture passes readily for clover honey—well, the story would hardly "go down." Please remember, therefore, that Prof. Cook contributes a positive case of this sort. We must not ignore the facts; and the fact seems to be that some insect honey is excellent, and some abominable. Probably also there are all intermediate grades.

DOES LOSING THE STING KILL THE BEE?

Right this way to see an interesting little fight. Let's have a "shindy" between Prof. Cook, who has proved by direct experiment that the loss of the sting kills the bee, and those others who have proved by direct experiment that it doesn't. Perhaps it is rather soon for me to act as umpire, but nevertheless let me have my say. Suppose an ogre should seize a dozen children and pull a leg off each one. Would they all die or all get well? Neither. Some would die and some get well. In deficit of evidence this is to be presumed of all very serious wounds in all creatures. As to ease in hand, the matter is still more complicated. Sometimes the wound is very serious and sometimes it isn't, depending upon the size of the lump of tissue pulled away with the sting. Losing the sting only should no more kill a bee than losing her horns in a fight kills a cow. But if you should jerk off the cows horns in such a way as to carry the whole top off her head away too, she would probably die. Again, stingers are mostly aged (presumably) and aged bees in June have but a very short span of life left anyway. Wonder if this fact has not been forgotten in some of the "direct experiments." Page 197.

BEE-KEEPING FOR INVALIDS.

Yes, from one point of view, bee-keeping is hardly the thing for invalids—calls for lively stepping around, long hours, and sometimes for heavy expenditures of strength. But somehow one successful bee-keeping invalid, like Mrs. Axtell, rather extinguishes considerable argument on the other side. And here's a good sentence from Mrs. A., worthy to be printed large on the beginner's smoker, or some such place: "Pay little attention to what your *neighbor* advises, unless you know him to be a practical apiarist." The neighbor wise and gray, who has had "more or less bees around my place all my life," is especially a dangerous snare to the beginner. p. 197.

THOSE TALKS TO BEGINNERS.

Here's compliments to the talks to beginners by Mr. Gehring. They are good. But then, every new dog must expect to be snuft at and snarled at *some*, and I'll see if I can't find a place where I can snap my teeth together. Ah, here it is! "They give up as soon as they find themselves prisoners—always and everywhere." This is very correct as a general truth; but my idea is that there are occasional exceptions, that they do sometimes ignore everything else but the consuming passion to find a vulnerable place and put in a sting. The bee under your veil almost always feels intimidated and tries to get out; but once in awhile one will proceed to business. I think this takes in two ways, sometimes by being too infuriated to notice the plainest evidence of imprisonment, and sometimes by taking a few turns around, sizing up the situation, and then *deciding* that a fellow who has sworn to die in the attempt does best to "strike home" at once. p. 199.

NECTAR-GATHERING MICE.

Our bees, of course, have the other insects and the humming-birds as competitors; but it is news to be informed that there are nectar-gathering mice. (Apologies to the scientists who want them called Marsupials; but the picture says they're mice). Certainly animate nature is amazingly versatile in its forms. Page 212.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

ATTRACTIVE HOMES AND SURROUNDINGS.

The home circle like everything else about us, is wondrously affected by its environment. I said none too much about the kind word and the thoughtful act in the home. I spoke truly of the marvelous influence of the flowers in the home. I think it was Henry Ward Beecher who said, "Show me the books and the papers in a household, and let me know the company which frequent the same, and I will rightly describe the people of that home." The home is not simply confined to the inside of the walls that domicile us. The immediate surroundings of the house are of equal importance in their influence to refine the character and mould the tastes.

Some years since, the village of Kalamazoo, Mich.,—it was larger than a great many cities—gained a wide reputation, not only for being the largest village in the United States, but for being one of the most beautiful towns in the country. It was not that the houses were palatial. Many of these were cottages, and not a few were very humble in their dimensions and architecture. But the thing that attracted everybody, and gave Kalamazoo its well-earned fame, was the beautifully kept lawns and lovely flowers, shrubs and trees, usually arranged with the skill of an artist, which adorned nearly every home in that beautiful village. I hardly need say that the people of Kalamazoo were exceptional in refinement, intelligence and enterprise. Loveliness like music charms every one and will certainly attract the best to its near presence. Kalamazoo had its fine public library, its ladies' club which attracted large attention, and its drives and boulevards which were enjoyed by the many visitors that delighted in spending their summer outings in this lovely spot.

We may not all be so fortunate as to live in Kalamazoo. We may be so unfortunate as to have neighbors who care little for neatness, order, and beauty. We can, all of us, make our home the pride, not only of those who occupy it, but also the pride of all our neighbors. Even those who are lacking in taste or are too indolent to make the exertion which fine grounds require, often show their appreciation when company comes to visit them. As they walk or drive out, they are very sure to pass by the orderly, well-cared-for places of the town or neighborhood. How many reasons there are why each of us should do all in our power to make our grounds the most lovely and attractive of any in our region. What sincere pleasure it gives us as we daily watch the growth of the beautiful plants and trees, and think of the part we have had in their arrangement and fashioning. Whatever gives us pleasure, as we have shown in a previous article, is sure to add to health and longevity. Thus we score again for the neat home grounds. We love to have our immediate friends refined and cultured. I wonder if children that are brought up from the earliest years, where everything tells of neatness and order, will ever fail to receive something of real refinement. Surely if beauty about the home works such blessedness in its members, we may tally again for home adornment. We know what the Scripture says about the leaven, and how all the meal was transformed. Can any of us have a higher ambition than a wish to plant this leaven that shall tend to make all the homes of our vicinity attractive and beautiful?

I believe I know just why Kalamazoo gained such a wide reputation for its superlative attractiveness. There is no question but that an exceptionally large number of the first settlers of that beautiful little village came from just such homes as we have been trying to describe, and were so attacht to beautiful surroundings that they gave first attention to making their own homes so neat and lovely that others who came to the town even tho less enamored of such beautiful things were at once led to follow the good example already set. Soon, it would be so noticeable if any slovenly place was permitted to disfigure the village that no one had the bravado to set the example, and thus the whole village became famed thruout the State and country.

Possibly we bee-keepers stand in special need of some exhortation in this direction. In California, especially, the apiary is off in some canyon or on some secluded mesa, and is likely to be seldom visited by any but the bee-keeper and his family. Thus the stimulus which comes from rubbing against the world and from its criticism is wholly lacking, and we are likely to become largely indifferent as regards the appearance

not only of the apiary but also of the cabin or house in case we live near the apiary, and all the surroundings. If we do make the apiary our home, and the family shares its pleasures with us, we certainly can not afford to be neglectful of these adornments which will go so far and do so much to make our loved ones possest of a personality which will honor and delight us and bless the world. Here again we score heavily for home adornment.

There is another reason why we should all look to it that our homes are made as attractive as our means and time will permit. By giving a little more time, we can purchase our flowers, shrubs and trees while very small and so at a very slight cost. By giving study to the grounds of others we can learn what are the most beautiful plants and shrubs. This will not only improve our observation but will be a delight in itself. Thus as we come to select for ourselves we shall make few, if any, mistakes. By giving a little time each day we can do all that is required, and hardly feel it either in time or labor. We thus keep in touch with all about our home and it soon becomes so much a part of us that it develops within us a love for the place which does so much to sweeten life.

The above is not simply theory with me, for we in our own home have tried to carry out what I have suggested above. California has much to encourage one in this kind of an undertaking. The flowers and plants here are so varied and beautiful that it is a wonder that every one does not feel moved to bring them to his own dooryard. The soil here is also so marvelously productive that a single season will suffice to clothe a bare place in the landscape with beauty and verdure that would require years in the more tardy East. Wherever we go, whether in the country or in the city, we are all eagerly watching for vines, flowers or shrubs that are more lovely than those which we already possess. Our excursions are therefore more enjoyable, and we have been able to select the most beautiful flowers, shrubs and trees that can be found anywhere. We each of us, then, planned how we would have our walks and drives, where we would put the lawn and where we would put the various plants that they might show off to the best effect. We then compared our plans and selected the one which all agreed would serve best for our especial place and purpose. We then set out the plants and all have had a part in cultivating the ground, adding the needed water and using the pruning shears. What a bond of interest this forms in the home! What delightful table-talk it calls forth, and how it prolongs the meal-time hour. Thus we see that the advantages in all this beautiful work of home adornment reach out in many ways, and pay a tremendous interest on the capital invested.

We are all very fond of grapes and have sought out what we believe are the best, selecting from both foreign and American varieties, and have planted them in two rows about eight feet apart. We have used inch gas-pipe and have made arches spanning the difference between the rows of grapes. The vines run over this and form a beautiful arbor. This not only affords a shady place to sit and read, and, in the autumn, to eat, but also hides the clothes-line which in the dry climate of California has little need of the sunshine to make its position suitable.

On the north side of our house, similar arbors of English ivy and other beautiful vines form another cosy nook. We utilize this not only for rest and shade, but under its protecting shade we plant the exquisite ferns, the charming begonias and the graceful climbing asparagus. These arches keep the climbing rose-bushes—wisteria, solanum, tacomas, etc.,—away from the house, and give a grace and beauty that must be admired by all. Surely, the home circle does not know what it misses if it does not do all it can in this matter of adornment of home grounds.

We have also studied up the matter of fruits, and have added such fruit-trees as we think will contribute most to the comfort and satisfaction of the family. In California, this is a matter of exceeding interest as almost all the fruits known to our country do well here. I remember visiting many apiarists in Michigan who had not lost sight of these matters which engage our attention to-day. I remember very well the home of Dr. Whiting, of East Saginaw, who will be remembered as such an enthusiast in all matters pertaining to the apiary. I remember with what pleasure Dr. Whiting showed us his grapes and his trees, and how proud he seemed to be, as he gave us the beautiful grapes and fruit. Much as Dr. Whiting enjoyed his bees, I can but believe that he received greater satisfaction from the fruit which graced his own table, and regaled the appetite of his fortunate guests. I have visited many other bee-keepers in many States of the country, and not a few of them had homes that might be the envy of any one. Many, like Dr. Miller, loved the roses and other flowers, and many of them have adorned their homes in a way to offer an object lesson of real value to all passers-by.

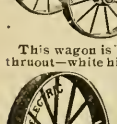
I do not believe it is necessary to secure the services of a landscape gardner in carrying out these suggestions. There are very few of us who, if we carefully observe the places of others, especially those that please us and have cost about the same expense that we are able to make, can not fashion our own grounds in a way to please us and receive the approval of the public. The very study that we shall give to the grounds of others will be a wholesome pleasure; and valuable in the added knowledge which we shall receive. It is also valuable and even more delightful to talk these matters over with those whose beautiful places show that they have taste and appreciation. I have visited almost every place in Southern California. Some of these places, like Montecito and Pasadena, are to California what Kalamazoo is to Michigan. With what exquisite delight I lookt upon and studied the many beautiful places of these cities. How I have enjoyed talking with the owners and finding out the principles which they had used so successfully in adorning their own beautiful grounds. With what especial delight did I take Mrs. Cook to enjoy with me the environs of the second city, and with what eagerness I lookt forward to a promist visit with her that we may enjoy together the incomparable beauty of the little suburb of Santa Barbara, known as Montecito.

Farm Wagon Economy.

The economy of this proposition is not all found in the very reasonable price of the wagon itself, but in the great amount of labor it will save, and its great durability. The Electric Wheel Co., who make this Electric Handy Wagon and the now famous Electric Wheels, have solved the problem of a successful and durable low-down wagon at a reasonable price.

ELECTRIC

This wagon is composed of the best material thruout—white hickory axles, steel wheels, steel hounds, etc. Guaranteed to carry 4000 lbs. These Electric Steel Wheels are made to fit any wagon, and make practically a new wagon out of the old one. They can be had in any height desired and any width of tire up to 8 inches. With an extra set of these wheels a farmer can interchange them with his regular wheels and have a high or low-down wagon at will.



Write for catalog of the full "Electric Line" to Electric Wheel Co., Box 16, Quincy, Ill.

Please mention Bee Journal when writing.

GENERAL ITEMS

Bees in Fair Condition.

I put all my bees out April 20th, and they are only in fair condition, being light in weight and also in bees. I lost 6 thru starvation, and one was queenless. The starvation was due to not being able to put them into the cellar myself. I had 230 colonies.

N. STAININGER.

Cedar Co., Iowa, April 23.

Egyptian and Hungarian Bees.

I have yet to see the first Egyptian bees. Many years ago Mr. J. W. Winder, of Cincinnati (notice of whose death I was very sorry to see in last year's Bee Journal), offered to send me an Egyptian queen the succeeding spring, but he lost all of them during the winter which followed.

I have had more experience with the Hungarian bees, as I once took care of a colony for an old friend, who has since past away. I

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.

FOR SALE

I have 40 colonies left out of my 100 I advertised last month—all on 8 self-spacing Hoffman frames in dovetailed hives, two supers with each hive, full worker-brood combs, in lots of 15 to 25, $2.50 per colony; or the entire lot at $2.00 apiece. F. GENT,

19Alt Rockford, Wright Co., Minn.

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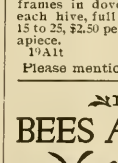
ITALIAN

BEES AND QUEENS



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One Breeder	3.00
One Comb Nucleus	1.80

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11Alt Clarinda, Page Co., Iowa.

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Red Clover Queens

LONG-TONGUED BEES ARE DEMANDED NOW.

ONE Untested Italian Queen FREE as a Premium for sending us TWO new subscribers to the American Bee Journal for one year (with $2); or, one Tested Queen free as a premium for sending us FOUR new subscribers with $4.00).

We have arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us the coming season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

Orders for these fine, "long-reach" queens will be filled in rotation—"first come, first served"—beginning about June 10th. It is expected that orders can be filled quite promptly, as a large number of nuclei will be run. All queens will be guaranteed to arrive in good condition, and all will be clipt, unless otherwise ordered.

CASH PRICES of these fine queens will be as follows: Untested, $1.00 each; Tested, $2.00 each. Send all orders to

GEORGE W. YORK & CO.
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hardly know how to describe these bees, but they look much like the bees that many now call Caruiolans, still they are different, being of a dirty bluish gray, or what some of my friends used to call a "wild pigeon" color. They are the quietest and gentlest of any bees I ever workt with, and I liked them except for their falling from the combs and their inclination to excessive storing of propolis. But a bad winter carried them off, as it did the Egyptian bees.

I should be glad to know what has become of these two races of bees, if any fellow bee-keeper can tell me. Wm. S. Barclay.
Beaver Co., Pa., April 12.

Weather Unfavorable for Bees.

This is cold weather for bees. Mine came out for a flight April 3d, and those that were alive had a good one. The loss was 12 per-cent, and if the weather does not change soon I am afraid we shall lose more. There is such a cold wind blowing from the northeast that I am unable to open my hives, but I hope a day will soon come when I can look them over. I know that some of mine are very light, but I am hoping for the best, and am very much interested in bees.

I would like to know what a bee-louse is; where it keeps itself; and what the work is that it does in a bee-hive. C. H. Voigt.
Manitowoc Co., Wis., April 24.

Bees Bringing in Pollen.

Bees came thru the winter nicely. I put them out April 10th, and they brought in pollen an hour after being put on the summer stands. We had heavy frosts April 19th and 20th, the temperature being 21 degrees above zero, but since then the bees have been working lively. They are stronger than usual.

I am getting better slowly, but can not do much as yet. C. Theilmann.
Wabasha Co., Minn., April 24.

Blacks vs. Italians in Brood-Rearing.

I wintered 42 colonies of bees on the summer stands with no protection, and did not lose a colony.

I think black bees far ahead of Italians in regard to brood-rearing. C. C. Ream.
Klamath Co., Oreg., April 18.

Severe Winter Causes Heavy Loss.

My loss so far is 10 out of 25, and I hope the limit has been reacht. The weather was so severe all winter that the bees could not reach their stores, so I have been feeding the honey to the survivors. Mrs. C. A. Ball.
Oneida Co., N. Y., April 22.

Bee-Keeping and Bears in Florida.

The secretion of nectar from flowers in this locality has been rather poor so far this season. There have been cool winds and heavy falls of rain. Fruit-trees bloomed profusely, and are now thru with the exception of Burbank plums, which are now opening. Ti-ti bloom is very abundant now, and has been for several weeks, and is a great favorite with bees.

There is an apiary located at the mouth of

10 DAYS TRIAL

Buggy Announcement Extraordinary.

The Kalamazoo Carriage and Harness Co. of Kalamazoo, Michigan, have adopted the plan of sending their vehicles anywhere, on 10 days free trial. They sell direct to consumers at wholesale prices and allow you to take the vehicle from the depot, hitch up to it, try the springs, running qualities, see the trimmings, finish and style before you decide to keep it. No more buying "a cat in the bag, sight unseen." They know the quality of their goods and are willing to let them sell on their merits. Write for free catalogue.

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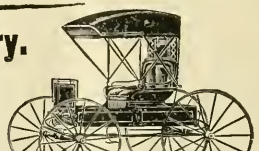

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the Choctawhatchee River, near a swamp 15 miles across. The damp, rich soil produces many honey-yielding plants, and furnishes a secure retreat for bears; one visited the apiary, and ate and destroyed 15 colonies. On an arm of St. Andrews Bay, where an apiary is located, a bear destroyed several colonies, but was shot, and much meat secured and a fine pelt. MRS. L. HARRISON.

Washington Co., Fla. April 16.

Last Year an Average One.

My bees wintered well. Last fall I put 54 colonies into the cellar, and last week took out that number in fine shape. Last year was an average one with me, as I got about 1,800 pounds of comb honey.

R. A. HUNT.

Fillmore Co., Minn., April 16.

Hard Winter on Bees.

I have lost 4 colonies out of 16 wintered on the summer stands. It was a hard winter for bees, there being no chance for them to fly.

JOSEPH N. ROWLEE.

Oswego Co., N. Y., April 23.

Bees Building Up Nicely.

Bees are building up nicely, and are swarming, but not storing very much more honey than they consume. Our first honey harvest will be from the second cutting of alfalfa, which will be in May.

I appreciate the American Bee Journal very much. MRS. A. BOWEN.

Merced Co., Calif. April 16.

Gathering Pollen and Honey.

We have had a very backward, cold spring, but the bees have wintered well, and it is nice weather now. They are bringing in pollen and some honey from the woods. I have 70 colonies, having lost 6. The prospects are good. Clover wintered splendidly, both white and alsike. DANIEL STUART.

Ontario, Canada, April 27.

Bees Gathering Honey.

My bees wintered tiptop, and are bringing in lots of honey to-day. The American Bee Journal is all right. GILBERT BROWN.

Fulton Co., N. Y., April 27.

Wintered With Small Loss.

The bees have come thru the winter in good shape, with a loss of 4 colonies out of 60. It is snowing here to-day, and the temperature is 36 degrees above zero.

EDWIN HUTCHINSON.

Livingston Co., N. Y., April 19.

Bees in Eastern Pennsylvania.

I am starting in the bee-business in a locality which I suppose is about the poorest in the United States. Bees are kept in small quantities by almost every farmer in the neighborhood—from one to five colonies—in the old-style box-hive. They all complain of little surplus honey, only from 5 to 15 pounds from their best colonies. I know of some that didn't get a pound for three years in succession. Bee-plants are very scarce around here, except that of fruit-bloom and white clover, which, some years, are quite plentiful. Almost every foot of soil is cultivated, and all weeds and wild flowers along the fences and roadsides are cut down. There is no buckwheat raised here any more, which used to produce large quantities of honey. We need the long-tongued bees very badly in this part of the country, as there are hundreds of acres of red clover around here, where barrels of honey are going to waste.

I bought several colonies of black bees last spring at $1.00 per colony, and expect to transfer some of them into dovetailed hives, and later on supply them with Italian queens.

F. M. MAYBERRY.

Montgomery Co., Pa., April 18.

Tennessee Queens!

Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3¼ miles apart, and mated to select drones, $1.50 each; untested warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and but few within 5 miles. 28 years' experience. Discount on large orders. Contracts with dealers a specialty. JOHN M. DAVIS,
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Quilts or No Quilts.

At the Ontario convention, reported in the Canadian Bee Journal, 18 were in favor of quilts and 12 opposed.

Sugar for Feeding.

It is good in the fall, perhaps better than honey; but for spring, honey is away ahead, says A. Alberti in Deutsche Ill. Bztg. The sugar needs a digestion that the honey does not, and in the fall and early winter this matters little because the food is taken in such small portions, but when breeding begins in late winter or spring, then it is consumed in large quantities, and converting so much cane-sugar overburdens.

Hoffman Frames.

These have been strongly championed by Editor Root, but he now admits that there are localities in which propolis is so bad that Hoffman frames are impracticable.

A Plan of Producing Comb Honey.

Here is a matter for you to try in your apiaries. It is the system to be used with shallow divisible-brood-chamber hives. You have eight-frame hives. Take two of these for a brood-chamber thru the spring. Manage so as to have the brood as much as you can in one of the chambers, say by having the brood-nest in the upper one, and spread it and manipulate to get these combs solid full of brood. The success does not depend on this getting the one set of combs solid full of brood, tho to obtain *best* results it will pay to do this. With this double brood-chamber there is so much room you keep down the swarming fever, and I think the room to spread, especially downward, gives a greater vigor of work than a crowded hive.

Ten days before the flow begins, put the queen in the lower chamber with a little brood—one comb with any amount of brood will be plenty; an excluder on this, and the rest of the brood on top. At the end of ten days, when the flow is just starting, take to a new stand the lower hive with the queen, and put the top chamber on the old stand with nothing but its *sealed* brood and no queen, but give a virgin queen or ripe protected cell, or wait two or three days and give a queen or cell. Give only a cell or a virgin queen, because the brood is *all sealed* that is left on the old stand; and while the virgin is mating, and getting ready to lay, the brood is hatching; so when she does begin laying, the last of the brood is about ready to emerge, and your colony is just in the condition of a colony that has swarmed naturally, and their young queen just ready to lay, except that you have kept the strength of the colony on the old stand, and have been getting section work. As the brood hatcht the brood-combs were filled with honey; but as that young queen begins to lay, that honey goes up to the sections out of her way, and you have no swarming, either.

This system anticipates quite a contracted brood-chamber left on the old stand, which would be the result with one section of a divisible-chamber hive, hence there would not be any great amount of honey stored in it during the time the queen was not laying. To make the best test with the eight-frame hives, I suggest that you use but six to the body, using a dummy at each side; thus you have a twelve-frame hive before the separation at the start of the flow, and six left when divided.

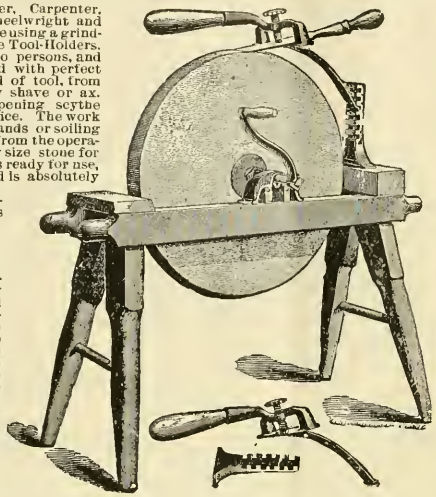
The whole plan contemplates a big hive up till the flow, then a very small one on the old stand, and yet all swarming effectually controlled, the force of fielders right where they

A HANDY TOOL-HOLDER!

Sent by Express, for $1.50; or with the Bee Journal one year—both for $2.00.

Every Manufacturer, Miller, Carpenter, Cabinet Maker, Machinist, Wheelwright and Quarryman, Farmer, or any one using a grindstone, should have one of these Tool-Holders. One boy can do the work of two persons, and grind much faster, easier and with perfect accuracy. Will hold any kind of tool, from the smallest chisel to a draw shave or ax. Extra attachment for sharpening scythe blades included in the above price. The work is done without wetting the hands or soiling the clothes, as the water flows from the operator. It can be attached to any size stone for hand or steam power, is always ready for use, nothing to get out of order, and is absolutely worth **100 times its cost.**

No farm is well-equipped unless it has a Tool-Holder. Pays for itself in a short time.



How to Use the Holder.

DIRECTIONS.—The Tool is fastened securely in the Holder by a set-screw and can be ground to any desired bevel by inserting the arm of the Holder into a higher or lower notch of the standard. While turning the crank with the right hand, the left rests on an end of the Holder; the Tool is moved to the right or left across the stone, or examined while grinding, as readily and in the same way as if held in the hands.

For grinding **Round-Edge Tools,** the holes in the standard are used instead of the notches.

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will do the most good. The old queen never stops laying, and goes right on and builds up a good colony in her new location.

This is no idle dream, and I ask that you have it tried in your apiaries this season, to be written up later after trial. I have for years been studying the plan, and, to some extent, experimenting. I think I am the pioneer in it, tho another man, and a good apiarist in this State, has also used the principle, coming at it independently of me. If I have the success I anticipate for it, it will be *the* system with divisible-brood-chamber hives.—R. C. AIKIN, Larimer Co., Colo.

[Our readers will remember that about two years ago I advocated a plan very similar to this—that is, I practiced running two eight-frame brood-chambers for the purpose of getting powerful colonies for the production of comb honey; then when the honey-flow was fairly upon us I crowded this colony all into one brood-chamber and one or two supers containing sections and foundation. Sometimes I gave such colonies a shallow extracting-super, and after the bees had them well started I took them off and substituted the comb-honey supers. There were a few of our readers who condemned the plan as impracticable and unorthodox; but I know that for some localities, and for some seasons at least, it is all right. Mr. Aikin's plan is, perhaps, an improvement on mine, and I wish a good many of our readers might try it and report at the end of the season.]—E. R. ROOT, in Gleanings in Bee-Culture.

Long Tongues and Red Clover.

J. D. Evans, in the Canadian Bee Journal, thinks that instead of working for long tongues the effort should be to obtain a new clover by crossing red and white, or red and alsike. In the same journal, Ila Michener, referring to the strange circumstance that during a certain season one kind of bees would excel, and show no superiority at other times, says:

I have become thoroly converted to the "long-tongue" idea, and believe that explains it all; there is no mystery about it. There will be more difference during clover honey because the long-tongued bees can work on red clover, especially mammoth or large red clover, "and when the buckwheat and goldenrod honey come we will not see half of that difference." Why? Because hybrids, or even black bees, can work as well on buckwheat and goldenrod, and it is the same early in the season on the wild red-raspberry.

My son, E. L. Michener, living further from the lake, and nearer the marsh than I do, got about as much wild red-raspberry honey as clover, while I got very little, but when clover came our yields were about the same. He got twice as much honey from buckwheat and fall flowers, for my bees had to go too far for it.

A part of our bees are Italian and Carniolan crost; while they look like any hybrids, they are gentle and very good bees. We do not want all of the long-tongued Italians, for they will keep on working on red clover after it ceases to be profitable, while the dark bees will be filling up their combs with dark honey from different sources. Yet, if all our bees had been like our best red-clover workers we would have gotten twice the amount of honey we did get; so I think we will do a lot of requeening another summer.

Spraying Trees in Bloom.

I have already reported that the Experiment Station at Geneva, N. Y., counseled against spraying trees while in bloom; that it not only killed the bees, but also affected the delicate organs of the flowers; that in some cases those who had been most active in urging spraying during blooming-time had found to their sorrow that such spraying had seriously cut down their fruit crops. While these experiments were being conducted at Geneva and in that vicinity, the same kind of experiments were being carried on at Cornell Uni-

versity, N. Y.; and now we have a report from John Craig, of that station, *confirming the findings of the Geneva station.* This report is publisht in the American Gardening for April 6th.

It has been urged by the advocates of spraying in bloom, that during seasons like that of 1900, when the trees are heavily loaded with blossoms, spraying at such times has the effect of thinning away the superabundance of fruit. Regarding this, Mr. Craig very pertinently says:

"It seems that, when this admission is made, the strength of the argument is very much weakened. If it is a thinning process, then it could be practiced with safety and advantage only in seasons of heavy bloom." Elsewhere he says, under the head of "Disadvantages of Spraying While in Bloom," that the "researches at Cornell and elsewhere have indicated that the copper salts are very injurious to tender tissues; and that, the more delicate the structure the more likely is injury to ensue.....The thinning which follows spraying trees in bloom is probably due to the injury to the pistil or stigmatic surface by the fungicide."

Mr. Craig then mentioned another objection to spraying in bloom; viz., the "destruction of the bees;" and then, in giving a reason why such destruction should not take place, he says:

"When cross-pollination is carried on by the bees, larger fruit will be secured than if self-pollination occurs.....Now, if we cover our apple-blossoms with mixtures which are likely to poison the bees, it seems to me that we shall be using against ourselves a double-edged weapon."

When it is remembered that these experiments were begun at the Geneva and Cornell stations at the instigation of the fruit-men, who were anxious to prove that spraying during blooming-time was an advantage, the results, being just the reverse of what was expected, are all the more valuable.—Editorial in Gleanings in Bee-Culture.

CONVENTION NOTICES.

Illinois.—The spring meeting of the eastern division of the Northern Illinois Bee-Keepers' Association will be held at the residence of B. Kennedy, 7 miles southeast of Rockford, Ill., on Rural Route No. 5, and 3 miles northeast of New Milford, Ill., Tuesday, May 21, 1901. All interested in bees are cordially invited to attend.

B. KENNEDY, Sec.

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An address by Joseph Choate, Ambassador to Great Britain, on the career and character of Abraham Lincoln—his early life—his early struggles with the world—his character as developt in the later years of his life and his administration, which placed his name so high on the world's roll of honor and fame, has been publisht by the Chicago, Milwaukee & St. Paul Railway, and may be had by sending six (6) cents in postage to F. A. Miller, General Passenger Agent, Chicago, Ill.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Apr. 18.—Choice grades of white comb honey sell at 16c, and there is no surplus in sight. Other grades of comb sell fairly well at the following prices: No. 1 grades of white, 14@15c; off grades, 13c; light amber, 12c; dark amber, 10@11c; buckwheat and other dark combs, 9@10c; candied and mixt colors, 7@9c. Extracted is dull, and prices very weak, with the exception of some fancy linden and clover grades, which is quotable at 7@8c; ambers, 6@7c; dark and buckwheat, 5@6c. Beeswax, 30c.

R. A. BURNETT & Co.

BUFFALO, May 2.—Fancy 1 lb. comb, 15@16c; all other grades dragging at 8@12c, as to grade, and not wanted. Extracted not wanted. Fancy beeswax, 27@28c; other proportionately less.

BATTERSON & Co.

OMAHA, May 1.—Comb honey, extra white, 24-frame cases, per case, $3.40; No. 1, $3.25; amber, $3.00. PEYCKE BROS.

DETROIT, Apr. 18—Fancy white comb, 14@15c; No. 1, 13@14c; dark and amber, 10@12c. Extracted, white, 6¼@7c; amber and dark, 5@6c. Beeswax, 27@28c. M. H. HUNT & SON.

NEW YORK, March 19.—Our market is virtually bare of comb honey, and there is a fair demand for all grades. Fancy white is still selling readily at from 15@16c; No. 1 white at from 13@14c; amber at from 12@13c; buckwheat, 10@11c, according to quality and style of package.

As to extracted, the market is quiet and inactive and a certain amount will have to be carried over again. Prices are declining somewhat, and if the honey is not moved in large lots, concessions will have to be made. We quote: California white, 7@7½c; light amber, 6½@7c; other grades and Southern, 65@75c per gallon. Beeswax very firm at 28@28½c, and for exceptionally fine yellow, 29c.

HILDRETH & SEGELKEN.

CINCINNATI, Apr. 18.—The demand for comb honey is nearly over. The stock of it also well cleaned up. Fancy white brings 16 cents. Extracted is in fair demand; dark sells for 5½c; better grades bring 6@7½c; fancy white clover from 8½@9c. C. H. W. WEBER.

KANSAS CITY, Apr. 18.—There is very little honey offered, and the demand is steady, selling from $3.50@$3.90 per case, fancy white; no amber on the market at this time. Extracted, no change; white, from 8@9c; amber, there is a little on this market that could be sold from 7½@8½c. Beeswax scarce and demand good, at 25@28c. W. R. CROMWELL PRODUCE Co., Successors to C. C. Clemons & Co.

ALBANY, N. Y., May 3.—Honey market very dull. Very little call for anything but choice comb honey, of which there is a scarcity. Extracted quiet. H. R. WRIGHT.

BOSTON, April 4.—Fancy No. 1 white in cartons, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. Absolutely no call for dark honey this year. Extracted, white, 8@8½c; light amber, 7½@8c. Beeswax, 27c.

BLAKE, SCOTT & LEE.

SAN FRANCISCO, Apr. 17.—White comb 12@13 cents; amber, 9@11c; dark, 6@8 cents. Extracted, white, 6@6½c; light amber, 4½@5c; amber, 4@4½c. Beeswax, 26@28c.

Not much coming forward of any description, and stocks in the hands of dealers are light. The immediate inquiry is not brisk, however, as there are no orders of consequence upon the market, and dealers do not care at present to purchase heavily on their own account.

SOUTH DAKOTA FARMS

Is the title of an illustrated booklet just issued by the Chicago, Milwaukee & St. Paul Railway, descriptive of the country between Aberdeen and the Missouri River, a section heretofore unprovided with railway facilities, but which is now reacht by a new line of the Chicago, Milwaukee & St. Paul R'y. Every one contemplating a change of location will be interested in the information contained in it, and a copy may be had by sending a 2-cent stamp to F. A. Miller, General Passenger Agent, Chicago, Ill.

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	5lb	10lb	25lb	50lb
Sweet Clover (white)	70c	$1.20	$2.75	$5.00
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White Clover	90c	1.70	4.00	7.50
Alfalfa Clover	80c	1.40	3.25	6.00
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Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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To say to the readers of the BEE JOURNAL that

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Extra selected breeding, the very best..5.00

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The classic in Bee-Culture—Price, $1.25, by mail.

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The $10.00 queen is guaranteed to produce bees with a tongue-measurement of 19-100.

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The $25.00 queen, 21-100.

These last are very rare and with one exception this (21-100) is the longest tongue reach yet secured. We reserve the right, when we do not have the stock with the tongue reach called for, either to return the money or to send the next lower, remitting the balance. It would be well for our friends to put in their orders at once, and as soon as we get the grades we will send notice. When the money is sent, the queens will be forwarded. These will be put up in the very best manner possible; and while we guarantee safe arrival in good order to any point in the United States, on any railway line, we will not guarantee safe introduction. Such valuable queens should be release on hatching brood.

N. B.—It seems as if it ought not to be necessary to say that no one but a queen-breeder or a large honey-producer should order these high-priced queens; but it is a fact according to our experience that beginners with only a few colonies will order our highest priced imported queens. Such bee-keepers have no more use for such queens than a pig has for a wheel-barrow.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., MAY 16, 1901.

FORTY-FIRST YEAR
No. 20.

WEEKLY

MR. JESSE M. DONALDSON AND HIS APIARY.
(See page 312.)

THE AMERICAN BEE JOURNAL.

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GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

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OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

REV. E. T. ABBOTT will soon lecture at the high school in St. Joseph, Mo., on bees and bee-keeping. He knows how to do it in an interesting and profitable manner.

MR. O. O. POPPLETON, of Dade Co., Fla., writing us May 1st, said:

"This season in this locality the honey-flow will be an almost absolute failure, because of lack of saw-palmetto bloom. I hear there is plenty of bloom farther up the coast."

MR. DANIEL DANIELSON, one of the prominent bee-keepers of Turner Co., South Dakota, gave us a call recently. He had been in a Chicago hospital for awhile, and was about to return to his home and farm, where he looks after the bees, not being able to do heavy farm work any more.

MR. M. L. TRESTER, of Nebraska, called on us May 3d. He is not now engaged in bee-keeping, and has not been for years. At one time he was secretary of the Nebraska State Bee-Keepers' Association. Nearly 20 years ago he had a very expensive experience with foul brood. It is an interesting story, as he tells it, though one that he would not like to experience again.

MESSRS. BARTLETT BROS. & MERKLY, last year, in one apiary in Utah, from 160 colonies and their increase, took 55,000 pounds of A No. 1 white extracted honey 27½ tons, or a shade more than 343 pounds per colony, spring count.—Gleanings in Bee-Culture.

It is no great thing to get 343 pounds of extracted honey from one colony—that has often been beaten. To get that amount from each of 25 or 50 colonies would be remarkable; from 160, spring count, in one apiary—it is stupendous!

MR. WM. M. WHITNEY, of Kankakee Co., Ill, wrote us April 24th as follows:

FRIEND YORK:—I am trying to get caught up on my reading matter, which accumulated during my long absence, and I spend much of my leisure time with the "Old Reliable." While I expected to attend all the sessions of the National Association in Chicago, on account of ill health I was there at the opening session only. I have been very much interested in the report of the proceedings.

On many questions discussed, it is plain, I think, that difference in locality, with different climatic conditions, difference in trade conditions, etc., make all the difference in the world in conclusions—change places and circumstances, and opinions reverse as quickly.

I think you are entirely right in the matter of labeling your honey. If any producer desires to do a retail business, why, it would be all right to label his packages; but it would be presumptuous in me, to wholesale to you, and expect my labels to reach the retail trade or consumer.

I am with the majority respecting the second-hand tin cans. Of the few I purchased two years ago, three were used—two spoiled my honey, and the other was used for refuse drippings. The balance have never been taken from the cases. They were so rusty, and smelt so badly, I dared not use them for any purpose for which I want cans. So I am out the price paid, and $10 for wasted honey.

I had heard nothing of your removal till the day I called on you at your present location; nor did I realize the extent of your misfortune till I read the account in the Bee Journal. You certainly have the sympathy of all your patrons, and it is hoped that what seems a misfortune may prove a blessing in disguise. Your present quarters are certainly much more convenient than the other. I am just lazy enough at my age (73) to prefer riding four or five blocks on street-cars, to climbing two or three flights of stairs, when I wish to find you.

I hope you have not sustained a serious loss.

Truly yours,
WM. M. WHITNEY.

The loss on the stock of bee-keepers' supplies was much larger than we anticipated at the time we settled with the insurance company. We should have had at least twice the amount we received to cover the loss. But, as you say, we believe our patrons will help us out by giving us all the trade they can, and especially try to help us extend the circulation of the old American Bee Journal. For all of which we will be truly grateful, and do our best to give them good value in return.

"BEE-KEEPING BY AN AMATEUR" is the heading of an article in the Bee-Keepers' Review, accompanied by a fine picture of the apiary of the "amateur," Peter N. Duff, of Cook Co., Ill. Beginning less than two years ago, he now has 52 colonies—a pretty good outfit for one who calls himself an amateur. He wintered his bees in a repository above ground—a place generally condemned, but as he succeeded in keeping the temperature between 40 and 48 degrees, he must be excused for successfully wintering. A small oil-heater, with chimney to carry off gases, raised the temperature when too low. Success to the genial Mr. Duff.

MR. GEO. THOMPSON, of Geneva, Ill., we regret very much to learn, died April 14th. He was one of the oldest bee-keepers in northern Illinois, and a very stanch friend of the American Bee Journal and its editor. We feel that his departure is indeed a personal loss, and our sympathy is extended to Mrs. Thompson in her sad bereavement. We understand she has a number of complete volumes of the American Bee Journal, which she, of course, has no use for, and would like to sell. Any of our readers desiring such volumes would do well to write Mrs. Thompson.

THAT STORY ABOUT BEE-TRACKERS in Texas who make a living by marking a single bee as it leaves its hive, then following it mounted on a bronco without ever losing sight of it till it alights on a particular flower, and thus the kind of honey is tracked for each hive—the story is copied in the Southland Queen with the remark that in that part of Texas it isn't the men that track the bees, but the bees that track the men! No doubt the men often "make tracks," and that in rapid succession, too.

MR. CHAS. KOEPPEN reports in the Bee-Keepers' Review that last year, without any help, he took 14,000 pounds of comb honey from six apiaries. Unfortunately the size of the apiaries is not given, nor the yield per colony. If he had 120 colonies averaging 117 pounds each, he must have had little time to waste. If he had 280 colonies averaging 50 pounds each, he must have done some remarkably lively stepping around.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., MAY 16, 1901. No. 20.

Editorial.

Heavy Rains in California the last week in April give almost positive assurance of large crops. It seems that the rains were quite general over the State, and particularly in the central and southern parts. Mr. W. A. Pryal, of Alameda Co., has kindly sent us clippings from local daily newspapers which speak almost gleefully over the hopeful prospects for farmers of the State. This, of course, means much for the bee-keepers as well.

But what if Old California *should* come up to her old-time record as a honey-producing State this year? And if all the rest of the country should also have a large honey crop, this whole nation ought to be well sweetened. And yet, unless there is a proper distribution of the crop of honey, there will be glutted markets and losing prices. There ought to be something done to handle the crop in a manner that will realize to the producers fair and just prices for their honey product. And now is the time to think about this subject—*before* the crop is ready to market, and not *afterward*, when it is too late.

Buckwheat Comb Honey, according to Henry Segelken, of Hildreth & Segelken, in Gleanings in Bee-Culture, is in so much greater demand than extracted buckwheat that it would be well for producers to change from extracted to comb.

Queen-Rearing is discussed by L. Stachelhausen in a very able article in Die Deutsche Bienenzucht. His manner of securing the work of queenless bees seems especially commendable. On one of his strongest colonies (several such colonies may be used) he places an excluder, and over this a hive-body in which he puts four or five frames of brood from other colonies, filling up with empty combs. In eight or nine days nearly all the brood in this upper story will be sealed, and a large number of young bees will have emerged. At this time, in the afternoon, he takes out one of the broodless combs, and moves the frames in this upper story so that a vacant space shall be left in the center, in which a frame may afterwerd be hung. This upper story is then moved bodily to a new stand. So large a proportion of the bees being young, few will return to the old stand, and in the evening they will show full signs of queenlessness, when the frame with prepared cells is carefully pushed down into the vacant space with full expectation that prompt work will be started to rear queens, and that they will be found well under way the next morning. This hive, with its contents, can now be returned and placed over the excluder from which it was taken, when the cells will continue to completion.

Editor Pender, of the Australasian Bee-Keeper, makes a practical point by saying that when he takes the frame of prepared cells from the queenless bees (which he says need only two hours to give the cells a good start) he makes sure to take with the frame all the adhering bees, and puts this frame in an upper story over an excluder, between two frames of young brood placed there at least a day before. He says:

> I do not disturb the bees on the cups any more than I can help when carrying them to the upper story. I want the work to go on without any check. If I had removed those bees hanging on the frame and put the frame into the super without any bees, it would be some time before the bees in hive 7 would find the started cells, because the hive is not overcrowded, but by taking the clinging bees, too, the building of the cells goes on as if the change had not been made, and the bees in the super soon assist in making the cells perfect.

Time for Development of a Queen.—In the Australian Bee-Bulletin Mr. Doolittle is credited with saying that from the laying of the egg to emerging from the cell the queen requires 15 days. It is doubtful that Mr. Doolittle would be willing to father that statement, altho there is some good authority for it. In the past 40 years there has been a material shortening of the time taught. In the first volume of this journal, in the year 1861, between 17 and 18 days was given as the right time. At the present day, some say 15, some 16. The 17 to 18 days formerly taught was probably true for a weak nucleus, and 15 may be the normal time for a strong colony.

Shipping Drone-Eggs by Mail.—One difficulty in the way of rearing queens early at the North is that early drones can not be secured. "Swarthmore," in the Rocky Mountain Bee Journal, tells how he has overcome this difficulty. By way of caution it may be said that even if drones were plenty it remains to be proven that good queens can be reared ahead of their usual time. "Swarthmore" says in part:

> Last season I was prompted to do some experimenting with drone-eggs, sent to me from many distant points by post, and the result was so highly satisfactory that I hasten to give the long-suffering Northerner the benefit of these experiments.
>
> A number of batches of fresh-laid drone-eggs, in dry comb, were forwarded to me by mail nicely packed in tissue paper and enclosed in $4\frac{1}{4}$x$4\frac{1}{4}$ section-boxes.
>
> Immediately on receipt of these bits of drone-comb they were fitted into frames and placed in the center of the brood-nest of a strong colony previously made queenless for the occasion.
>
> Very few of these eggs were removed by the bees, and the number of dislodgments in transit was hardly worth mentioning.
>
> The queenless bees readily accept these drone-eggs, and each and every one will be properly cared for, reared and sent forth in handsome, healthy, flying drones long before any other colony in the yard has given a thought to drones or the need of them.
>
> Thus the Northern breeder may gain from six to eight weeks' time in getting under way with his breeding operations for the season, and as soon as the traffic is well understood by both shipper and receiver, I warrant both will wonder why they did not do the simple thing many years ago.

Must Bait Sections be Cleaned in the fall by the bees? A discussion in one of the foreign bee-journals as to whether it was best to put away extracting-combs in the fall without first having them licked out by the bees showed a division of opinion and practice. The claim was made that if the combs were left wet there was danger that the small quantity of comb left would sour. On the other hand, it was urged that giving back the combs in the fall was likely to induce robbing, and that worms were not likely to trouble the wet combs so much as the dry ones. Strangely enough, little or nothing was said about the chief objection urged in this country—the effect of the granules of honey inducing granulation in the fresh honey stored in the cells.

It has been held that the need for fall cleaning by the bees was more urgent in the case of sections than extracting-combs. But G. M. Doolittle comes forward in Gleanings in Bee-Culture and stoutly asserts that it is all a mistake to suppose that honey left in bait-combs will granulate any quicker than it would have done if the sections had been full. He claims as good results by using baits that have not been cleaned out by the bees in the fall. Several others have reported, some on one side and some on the other. So far from agreeing with Mr. Doolittle, Mrs. A. J. Barber reports that even when cleaned out by the bees, her bait-sections are very slow in being sealed. Others say that bait-sections when properly cleaned out in the fall by the bees and used the following summer are the first to be sealed. A call for more reports is made, and the end is not yet.

"The Wax from the Cappings of a ton of honey I find to be usually about 25 pounds; when all completely capped, about 30 pounds." So says R. Beuhne, in the Australian Bee-Bulletin.

Convention Proceedings.

Report of the Utah Bee-Keepers' Convention.

The Utah Bee-Keeper's Association held a convention April 5, 1901. The meeting was called to order by Pres. Lovesy promptly at 10 o'clock, a.m. Secretary J. B. Fagg called the roll and read the minutes of the previous meeting.

A letter was read by County vice-president C. C. Bartlett, of Uintah County, regretting his inability to attend. He reported the bee-industry in Uintah County in a satisfactory condition: also that there were 50 or more bee-keepers in the county, and about 4,000 colonies of bees. Similar reports were read from County Vice-Presidents A. N. Winsor, of Washington County, W. J. F. McAllister, of Kanab County, and P. M. Grigg, of Wayne County.

Mr. Roberts, one of our old-time bee-keepers, and who was one of the first to introduce bees into Utah, gave some of his early-day experiences in hauling bees many hundred miles on wagons from California. He also spoke on the introduction of the movable frame, on organization among bee-keepers, and on the medicinal qualities of honey.

THE PRESIDENT'S ADDRESS.

I have received fair to flattering reports from nearly all parts of the State during the past 10 to 15 days. The reports from the south, the south central and southeast parts, especially, have been universally encouraging in the prospects for the coming season. I find, as a rule, that the snowfall has been abundant, and it has been more evenly distributed over the State than in other years, thus insuring a fair supply of irrigation water, and so the chances for success are fairly good where the bees are in good condition. But while the many hopeful letters I have received give an encouraging outlook, still the bright picture may have a dark side to it. While the smelter smoke has very much weakened the bees in some localities, still a more serious condition exists in at least one or more counties. I find that there is a great deal of disease among the bees in some places. I have tried to urge a more persistent effort on the part of our bee-keepers to eradicate this disease, relizing that a few minutes spent in prevention are worth a month trying to cure. And one of the many reasons for publishing our expected treatise is that it will benefit our bee-keepers and bee-inspectors by putting into the hands of every bee-keeper simple and effective remedies for the benefit of himself and the industry. Our bee-keepers can and should set a new pace in the new century by helping themselves and aiding the Association in its laudable efforts.

There are other things which we as bee-keepers could improve on to our own benefit and advantage, and one of these is organization. We need no prophet to tell us that our only salvation depends upon a strong union of interest by proper organization. We find that the trades, laborers, farmers, etc., are organizing for mutual benefit, and why should not the bee keepers? They should organize for the purchase of supplies and also for the disposition of their products.

While many obstacles can be overcome by timely and proper management, still our brightest prospects do not always turn out a shining success, and if we attempt to count our profits by the prospects, we sometimes reap disappointments.

I find the winter question in this State still an unsolved problem; while with proper care the bees can be wintered successfully in most parts, in some places success seems to be almost impossible.

Would it not be well to consider the question of our Association making an exhibit at our State fair, or the one at Buffalo, and also the World's Fair to be held in St. Louis two years hence? We certainly should be represented there.

I would be pleased to have our bee-keepers throw additional light on any of these subjects, or any other one in the interest of the industry, not forgetting the treatise which I wish to publish as soon as possible. E. S. LOVESY.

Vice-President J. Hansen, of Boxelder County, reported the industry prosperous in his locality. J. S. Hamilton, of the same county, reported quite a loss of bees in wintering in his portion of the county, and J. L. P. Johnson, also of Boxelder County, wrote that as a rule conditions were favorable, but that there was some foul brood.

County Vice-Presidents Geo. Hone, of Utah County, A. F. Stevenson, of Davis County, C. O. Falkman, of Weber County, Thos. Belliston, of Juab County, and Ulrich Braymer, of Carbon County, reported their respective counties in fairly good condition. A number of letters were read by the secretary from county vice-presidents, inspectors, and others, and while most of the reports were encouraging, some spoke of loss by disease.

Inspector Anderson, of Cache County, said they had some disease, and that the county commissioners desired him to do all in his power to eradicate it. Mr. Scott reported much disease in some localities, and Mr. Dart exhibited samples of diseased brood, and had a letter read from Dr. Howard, of Fort Worth, Tex., after which a long discussion ensued as to the cause and effect of disease, the best treatment to prevent, cure, etc. The McEvoy treatment, with some modifications, was recommended. Our bee-keepers are waking up, and with the aid of our treatise and our county inspectors, we hope soon to banish it from the State.

A resolution was offered favoring the publication of a treatise or pamphlet by the Association, the object of which is to give the best and quickest method of discovering, curing, and preventing disease among the bees; and also how best to protect them against their enemies. Also, that the State law, the relation of bees to fruit, seed, plants, etc., be published in connection with it. After a long discussion which was participated in by many, the resolution was unanimously passed, and Pres. Lovesy, Secretary Fagg, and Messrs. Thos. Belliston, L. J. Whitney, and F. S. Dart, were appointed a committee to compile and publish the treatise.

Stronger organization among bee-keepers was discussed at length, with no definite results. A resolution was presented and passed, urging the bee-keepers to aid the Association in making an exhibit at the State Fair in October, and also at Buffalo and St. Louis. Many reports were given, coming from honey-consumers in the East, praising the superiority of Utah honey.

The election of officers resulted as follows: President, E. S. Lovesy; 1st Vice-President, R. T. Rhees; 2d Vice-President, Wm. Wartham; and Secretary and Treasurer, J. B. Fagg; Assistant Secretary, C. R. Matson. County vice-presidents, Salt Lake, Wm. A. Bills; Utah, George Hone; Wasatch, J. A. Smith; Davis, A. F. Stevenson; Boxelder, J. Hansen; Weber, C. O. Falkman; Juab, Thos. Belliston; Washington, A. N. Winsor; Tooele, Ben Barrows; Cache, Henry Bullock; Morgan, T. R. G. Welch; Uintah, C. C. Bartlett; Emery, Chris Wilcox; Wayne, P. M. Grigg; Carbon, Ulrich Braymer; Sevier, R. A. Lowe; Kane, W. J. F. McAllister.

AFTERNOON SESSION, 2 P.M.

The next question considered was the purchase of supplies and the disposal of bee-products. It was stated that nearly all supplies except sections can be purchased in the home market; and in regard to the disposal of the season's products it was decided to try to keep all bee-keepers informed as to prices, from time to time. The question of grading was discussed at length, and it was shown that a few dealers preferred amber to water white extracted honey because it is cheaper. Still there is a good demand for the best, regardless of the difference in the price.

Mr. Scott urged bee-keepers to be careful in grading their comb honey, because a few partly filled or uncapped sections would not only materially reduce the price of the honey, but it would injure the reputation of the bee-keepers. Mr. Hone stated that, as a rule, the greater portion of the bee-keepers of Utah had a good reputation for fair dealing, but in order to protect their product against any mistakes they ought to stamp their names on each case.

QUESTION-BOX.

Ques.—Is dividing preferable to swarming?

Mr. Hone preferred dividing because he had better success than with swarming. Mr. Whitney obtained very good results by forced swarming. Mr. Lovesy preferred dividing, as the bees are more gentle, the colonies more easily regulated, and better results can be obtained.

Ques.—What style of hive is preferred?

Mr. Fagg—The 10-frame Langstroth for all practical purposes, both for comb and for extracted honey.

Ques.—Does spraying during fruit-bloom kill the bees?

It was proven that it did, and also that it was an injury and no benefit to the fruit-grower.

Ques.—Is winter ventilation necessary?

It was decided that it is.

Mr. Dart—I put new burlap between the hive and super, with some chaff in it; this keeps the bees dry, and I have no trouble. J. B. FAGG, *Sec.*

Contributed Articles.

Bees Dying in the Hives—One of the Causes.

BY C. P. DADANT.

I SEE an inquiry on page 201, concerning the cause of death of a lot of bees. This case seems to me identical to the bee-losses in this vicinity during the winter of 1879-80, and I will ask leave to describe it.

The season of 1879 was very dry. During the summer and fall the bees harvested nothing. But fruits were plentiful and so were birds, and the bees worked during the fruit season on all sorts of damaged fruit. They began on damaged peaches, in August, then took to grapes, and later to apples. The number of bees found in small vineyards was so great that vintners held meetings in which they discussed the advisability of petitioning the Legislature to obtain a law forbidding the keeping of more than 20 colonies of bees in one apiary. Wherever a damaged berry was found it was full of bees and most of the grape-growers were of the opinion that it was the bees that punctured the fruit. Arguments were out of question until the heads became cooler, and it was at that time that we decided to plant grapes on a large scale in order to show our neighbors that grapes and bees could be kept profitably on the same farm, in large numbers and without mutual injury. The damage in this case was really greater on the bees than on the fruit, which had of itself no value for any one, and the bees themselves would have been better off without it. This unwholesome sweet (?) fermented in the hive and became inferior wine, cider, vinegar—yes, mainly vinegar. But there was nothing else for them except an occasional sorghum mill, and sorghum molasses is a poor addition to cider from rotten apples.

We removed all that we could find of this unhealthy food, and fed our bees on the best of sugar syrup. But in spite of it all, we had heavy losses, especially because the bees were confined to the hives for a number of weeks together during the coldest weather. But some people were worse off than we. We bought up an apiary, of some 80 colonies, the following spring. This apiary had been almost entirely destroyed by this bad food during that winter.

Those bees had not been fed, but there seemed to have been enough of this stuff in the cells to keep them till the coldest weather, and there was some of it yet to be found in many of the hives. The bees had slowly dwindled down and had changed position in the hives as the combs had become soiled, until the last small cluster had perished in an upper corner, driven there by the cold and by the stench arising from the foul dead bees. It seems as if a little of this sour food went a great way towards sickening them, for colonies which we had plentifully supplied with healthy food nevertheless showed signs of diarrhea, indicating that they, too, had consumed the nasty stuff.

Strange to say, after the opening of spring, it seemed as if the consumption of this food for breeding was not attended with unpleasant results. Strong colonies that managed to pass through this disastrous winter, prospered and thrived when warm days came, on the plunder that they obtained from deserted hives, for the stuff seemed to be scattered in small patches in many of the combs, the most of it being unsealed, as might be expected.

The most damaging result of this bad food is certainly brought about by the long confinement of the bees during cold weather. In an open winter, when the bees can have a flight once a week, I believe much less trouble would ensue, but when the bees are long confined on the combs, with such watery unhealthy food, they become unable to retain their excrements and the healthy bees catch the infection from the diseased ones. The after result of this trouble in spring is, sometimes, constipation or an inability on the part of the bees to discharge their excrements. This constipation becomes contagious, and in the latter form has been described by Cheshire under the name of "Bacillus Gaytoni." The bees that suffer from it are heavy, they drag themselves about as if partly paralyzed, they shine as if varnished; this comes, I believe, from their having lost all their coat of hairs. Even the queens catch the disease, sometimes, and in such a case the colony is not slow to perish, even if the weather has become warm. But in most instances the disease slowly disappears or wears out. I have, however, seen it persist through the summer in a few hives and the diseased bees kept themselves almost invariably at the top of the brood-combs, until they were carried out by their merciless sisters, for the bee is pitiless to the useless member of the family, and sickness finds no sympathy with her.

I cannot help thinking that the case mentioned on page 201 is identical with what I have described. The fruit-juice stores, the sickly bees dying in small clusters, the stench in the hives, and the protracted cold weather, all lead to the conclusion that the case is similar, and that we need look to no other cause. By the time this article appears in print, what there may be left of that apiary will probably be in much better condition, as the spring blossoms are a sovereign remedy for Winter's ill-doings.

Hancock Co., Ill.

Numbering Hives and Keeping a Record.

BY C. DAVENPORT.

THERE are some who do not consider it necessary to have hives numbered, but to me it would seem almost impossible to handle a large number of colonies unless the hives were all numbered or distinguished by a letter or figure of some kind. My hives are in rows, and these rows are also numbered, and to have both hives and rows numbered saves a large amount of work, for, as will be explained, it enables me easily to keep track of each colony through the entire season, and, what is of nearly as much importance, I can find or tell where any colony is without searching over the entire yard.

Instead of using a record-book I use smooth pieces of thin boards, which are about four inches wide and 18 inches long. I much prefer these boards to a book or paper of any kind for all transient records, as they are a great deal handier. For permanent records a book is, of course, preferable. With my system it requires about three of these record-boards for a yard containing 150 or more colonies, but each board can be used for a number of seasons, for at the end of the season, if there is anything on them which is desired to be preserved, it can be transferred to a book, and the writing on the boards planed off, when they are ready for use again the next season.

After the bees are put out in the spring, the condition of each colony is set down on one of these boards. A board is marked off into as many rows as there are rows of hives in the yard, and if, for instance, the colony in hive No. 8 in row 5 is weak in bees and short of stores, it is marked on the board under row five thus: 8—M—W—B. The letter M after the number of the hive shows that this hive is in the middle, or about the middle, of the row. I have the rows run east and west, and if it had been nearer the east end of the row than the middle, the first letter would have been E instead of M; or W if nearer the west end.

The first letter after the number always tells where in the row the colony is, and this saves a good deal of walking where there are 25 or more colonies in each row.

The next letter in the record is W, which shows that the colony is weak. Next is the letter B, showing that they are short of stores. If they had had plenty of stores the last letter would have been A instead of B; and if they had been so short that it would be necessary to feed within two or three days, the last letter would have been C.

To explain my system further we will say that under some row we find this record: 98—E—W—A X. This says that the colony in hive No. 98 is at the east end of that row, and is weak in bees, but has an extra amount of stores. An X after the letter A tells that that colony has an extra-large amount of stores, and in this case, as they are weak in bees, they have more than they can use, so we can draw a frame or two of honey and exchange with and help out No. 8, whose record will now read thus: 8—M—W—B—A. The letter B being crossed shows that this colony has been fed, and the letter A after it shows that they have been fed enough to make them strong in stores. But say we waited a week or ten days before feeding No. 8, and then only fed a small amount, then it would have read: 8—M—W—B—B—4—15. This says that they were fed April 15th enough to last them a week or 10 days from that date. If no honey comes in from the fields by this time, or before, we can tell by looking at this record-board what colonies have to be fed again, what rows they are in, and where in the row.

Later, if it is desired to equalize the colonies in

strength by drawing frames of brood from the strongest and exchanging them with weaker colonies, it is not necessary to spend a day or two in hard work examining each colony, for the record-board shows the strong, medium and weak colonies, and tells just where they are.

Still later, the strong colonies may require more room, especially those that had a large amount of stores—the record shows what and just where these are.

At the beginning of the main flow, or when the supers are put on, another board is taken and a new record begun. This board is marked off in rows to correspond with those in the yard, the same as the first one was. This second record also shows the strength of the colony and where it is. By a system of abbreviations similar to the one I explained in detail, it tells the date when each super is put on and taken off, so that during the flow I can, with this second record, tell about when any colony has a super ready to be removed, or when an empty one needs to be put on. Of course this can not be told accurately, but near enough so that it saves much work inspecting hives which otherwise would be necessary to determine when supers are needed to be taken off or put on.

The third board is used to record swarming. It tells the date when each swarm issues or is made, what hives they are from, and what hives they are hived in. It also shows about how much work, if any, has been done in each super before it is given or removed to a swarm. So at the end of the season these records show what colonies have swarmed, and about what each colony has done in the way of surplus work. Of course, this system of a cipher code or abbreviation in keeping a record of a colony, admits of almost endless variation : for instance, when examining the colonies the first time in the spring, if any are found to be queenless, a small x is placed under their number, and soon after they are united with weak colonies that have a queen, for I have decided that with me it does not pay to try to save a colony that loses its queen during the winter, for after the long winter confinement that bees are here subject to, they live but a short time after being put out in the spring, and, before a queen can be secured from the South and new brood reared, they, as a rule, become so weak that they do not amount to anything that season, so far as surplus is concerned ; and with a large number of colonies there is almost always a few that have a queen but are so weak that they are unable to build up in time for the white clover flow. A queenless colony united with one of these may enable them to build up into a strong colony for the white flow, so that anywhere from 50 to 100 pounds of surplus may be obtained, besides artificially swarming or dividing them so as to have, if increase is desired, two colonies in good condition for winter; and this of course may apply to two weak colonies that have queens, for although many have decided that it does not pay to unite weak colonies in the spring, I know that in my locality, under some conditions, it can be very profitably done ; but if there is anything about our pursuit that requires skill and experience, it is, in my opinion, uniting weak colonies profitably in the spring.

Southern Minnesota.

A Few Grains of Wheat for Honey-Gleaners.

BY ALLEN LATHAM.

IT has been so long since I have sent any of my wisdom to the "Old Reliable" that I ought to have a good store accumulated now. So much straw has been sent that I think it is time for a harvest of grain.

BEES AND STRAWBERRIES.

In this locality bees are frequently seen at work on strawberry-bloom in the season of bloom. They appear to get a little honey, but more frequently are gathering scant loads of pollen.

HONEY AND POLLEN ON THE SAME TRIP.

The statement made some months ago that bees do not gather pollen while after honey, must be received by the bee-keepers of Massachusetts with great incredulity. In the season of clover especially do the bees here gather the two simultaneously. In some seasons the sections of clover honey are ruined by the accumulation of pollen in them. We are thankful that this does not happen every year.

APPLE-BLOSSOM HONEY.

I am glad to see that this delicious honey has received its credentials. It is the most reliable honey we have for quality. With favorable weather a good crop is obtained every year of even date. The trees do not blossom readily on the "off" year with us. The honey is a pale straw color. It is the heaviest honey we get. I have seen it so thick that it was almost gummy. It *never* candies. It is palatable on the day that it is gathered. This can be said of no other variety with which I am acquainted. I plan to secure a crop every even year by spring feeding. Then on the day that the blossoms are about to open, or perhaps two days earlier, I fill the brood-nest *full* of syrup. This drives the bees into the sections. To make doubly sure that the bees go up, I put a bait-section, also full of syrup, in the super. This feed does not stay in the section, nor is any carried up. As every bee-keeper knows, the brood-combs get the first of the flow. If the combs are filled with a cheaper feed, then the honey is taken directly to the supers.

This flow from apple-bloom lasts only a few days, usually about 10 ; hence the necessity of getting the bees into the sections at the very beginning. This treatment will yield some thirty pounds of honey per colony. Some may express fear that the sugar will get into the sections and injure the purity of the honey. This does not happen. The syrup is ripened and placed in the brood-combs. It is difficult to get enough of the thin syrup into the combs to prevent considerable honey going there too. The syrup is poured into the empty cells of each comb from a coffee-pot. It diminishes greatly in bulk in being cured by the bees. It is not desirable to fill the combs more than once, unless a cold rain comes on. Then a small allowance, as soon as clearing weather arrives, will probably drive the bees again to the sections, which they will have drawn away from during the rain. After the crop has been secured the bee-keeper will find beautiful sections of the most delicately flavored honey in the supers. In the corners of the brood-chamber will be found sealed syrup. It does no harm there as it will keep perfectly. I would advise every bee-keeper to run a few colonies for this honey, if for no other reason than to get a choice honey for home consumption. My apple-blossom honey never goes into the general trade. It is all saved for home, friends, and a limited select trade. I sell it always at 25 cents per pound. I never have any last into the second summer.

BUMBLE-BEES IN WINTER.

Possibly the subject has been sufficiently hashed, but I will add my chop. Only the queens live through the winter. They crawl into a pile of leaves and lie inert till April or May. They do not become white, and the writer who found such "about ready to emerge" probably found the imago of the June-bug.

THE TENT FOR MATING OF QUEENS.

This is the best yet. Now let us investigate as to how small this tent can be, successfully. If a drone has never been outside the hive why should he mind small quarters ? If a tent six feet in diameter will do, then that is what the small breeder wants. Some of us should hardly care to build a 30-foot one.

TENT FOR BREEDING, ETC.

The "grain" that I shall now offer is worth its weight in gold. Having more honey in brood-combs than I needed, and a great number of unfinished sections, I wished a transfer. I loaded up a strong colony with supers of these sections. Then came the rub. Bees will not empty combs unless they are outside their hive. If outside the combs attract robbers. The problem was solved in this way :

My tent was made of five screens, each six feet square. This tent was placed over the hive with the top removed. Then the uncapped combs were placed within the tent as far from the hive as possible. These bees finished many sections. The work went on all through August. There was no honey in the fields, and robbers were fierce. They would buzz by the score outside the screen, but never go up and in. The home bees quickly learned that to go away from home they must rise, and to return they must get above the hive and drop. This device is of wide application. Every one knows the nuisance of a bee-tent with the bees trying to get out as the hive is left open. With a six-foot fence of mosquito-bar around the hive the advantage of the tent is retained and the worst feature gotten rid of.

If a weak colony is being robbed, try such a fence about it. You will be highly gratified with the result. Robbers will not get in—they will try to enter through the netting, but not otherwise.

BEES IN ATTIC WINDOWS.

I am rather short of land space, and thought I would utilize my attic windows for hives. Two hives were placed facing two windows. A short runway from beneath a window to the entrance served for exit. Two or three small holes were filed through the glass at the top of each pane to let out those bees which left the combs during manipulation. As far as honey-gathering and ease of manipulation are concerned nothing is gained, more than to offset loss. But in wintering much is gained. The two colonies have seen two winters thus. They have come through strong in each. Few bees die, and they all seem unusually vigorous. The combs come through without a spot of mold on them. It is delightful to open hives in which all the combs, even the outer ones, are dry and clean. This means rapid building up in the spring. The two in question are remarkably strong for the season.

I should state that I remove the covers and throw old clothes and papers over the hives for the winter. The attic is unfinished and is well ventilated. The results of this experiment are so pleasing that I shall, at my first opportunity, build a bee-house in which I can set 20 or 30 hives. This would be a tight, double-walled house with double windows. It would have ample ventilating facilities—this for dryness. The bees would get their air by the entrances. An oil-stove would be set in the house on extremely cold nights, for I believe that extreme cold robs the bees of much of their vitality. There would be an arrangement to shade the windows when sunlight would do harm. Such a house would, I believe, save enough in winter stores and in bees to pay the cost of it.

Norfolk Co., Mass., April 7.

Introducing a Queen-Bee—Her Normal Good Graces the Key to Success.

BY W. W. M'NEAL.

I WOULD better, dear reader, impress you with the fact that the honey-bee in all her actions is governed more by *cold business principles* than by any feeling of *love* for kin or stranger. I have watched closely the habits of bees for manifestions of love in its true sense, but I am forced to believe that they are swayed by a selfish love only. Her motives *may be* good; and that from necessity she employs harsh methods. However, it is by her *methods* that we are fitted to judge; and, judging from these we say that her motives are unrelenting.

Let me cite a few prominent traits which characterize the honey-bee as being utterly indifferent to the sufferings of her mother-queen, of her sisters, and of her brothers:

1. If the worker-bees *love* their queen, why will they, when this same queen becomes old and decrepit, allow a young, vigorous queen, and a stranger, *to dispatch the mother-bee right in their midst?* Not only do the workers positively refuse to assist the old and (to them) faithful queen, but when the bloom is on the stranger queen, they welcome her with the keenest relish to the situation she covets. When this same queen has become established in her new home, and is generous to the colony in the performance of her special duties, take her from the bees for a few short hours, or until they realize fully the loss of her. This will portray more clearly their real avaricious, grasping nature, and that *love* with them is an unknown qualification. For when the queen is returned to the bees, note the results: The worker-bees ball her as they would a stranger queen; and in every way evidence a spirit of *revenge* rather than that of rejoicing because she had come back to them. They appear to regard her sudden disappearance as a willful shirking of high responsibility intrusted to her, and, accordingly, the most influential member of the colony is made to feel their indignation.

2. When a worker-bee has given its life in defense of the colony—I mean one mortally wounded, so to speak—and by some means regains the hive before becoming helpless, why is she at once dragged therefrom, *alone to die?*

3. The great, boisterous drone-bee, which was so tenderly cared for when his presence in the hive *guaranteed the safety of the colony*, finally becomes a subject for the worst kinds of cruelty—that of *actual starvation in the midst of plenty*; and *within the immediate presence of the queen and worker-bees!* If the honey-bees have that quality, or attribute—love—which higher intelligences are supposed to have, why do they *always* commit these fearfully cruel acts?

Gentlemen, from my observations of the honey-bees, I am inclined to the belief that it is neither *love for* the mother-queen, nor the peculiar scent of the newcomer, that have to do with the art of introducing a queen-bee. The key to success is in *retaining* the normal good graces of the queen—I might say, the *best* normal perfection, for the honey-bee is the greediest of the greedy, and the question with her is, apparently, Has the exchange of queens been *a good business deal?* Of course, there are exceptions, but this can abundantly be said to be the rule.

Within the waxened walls of the bee's tiny home, individuality is nothing further than to serve the colony in the advancement of its selfish interests. This principle is painfully manifest in all their doings. The stranger bee, whose physical fitness enables it *to help the colony*, is almost always welcomed thereto, until it reaches a period or condition in life which requires that it then be helped by the colony.

Let me call your attention to a few common occurrences in the apiary, which serve to make manifest the assertion that this is the ruling principle with the honey-bees.

1. Note, please, that young bees having just reached the zenith of their physical power and beauty, are, upon returning from a flight, allowed to enter almost any hive they choose. Surely, *these* have not lost their identity—the distinct impress of the queen's scent during the little while they were out of the hive! Oh, no, nothing of the kind. It is seen at once by the older heads within, that *these* are just the kind of helpers most needed, and so they are permitted to join ranks with them.

2. Note, that there is no fighting upon exchanging supers with two or more colonies, when honey is being stored. Why, then, is this? Do not the bees of each colony take with them the peculiar scent of the queen of that particular hive? To be sure they do; but then they always carry with them what is of vastly more importance to the stranger colony—the fact that here is a company of able bees, and ample evidence in the shape of newly built comb and honey, of their *willingness to work*.

3. Note, that at swarming-time there is no fighting when two or more swarms unite; each swarm evidently feels that there is nothing to lose, but lots to be gained, by an addition to their forces.

4. Note, that any colony feeling the need of drones will welcome them to its hive; but when not needing their assistance, it will reject them at once; that a worker-bee laden with honey and pollen may, and quite frequently does, enter the hive of some near-by colony; and that a colony frequently balls its reigning queen when there has been no outside disturbance of the hive.

5. Note, that when the mother-queen, or reigning queen, is found in an unexpected quarter of the hive, she is often stung by the workers; that a colony having a good laying queen will attend upon a score or more of queens in cages, *providing* that these queens have attained their proper or natural development; and that a virgin queen will be allowed to starve to death, her entreaties for food availing nothing. Now, why this partiality? Verily, the virgin is regarded as bringing with her *no* security to the colony, while the queen of the other class, so soon as it is seen that she will not, or can not, molest the reigning queen, is reserved unto future use should any accident befall this queen.

6. Please note, also, that the bees of a colony in whose hive there are so many caged queens, are just as able to pick out a robber-bee at the entrance as though there was but the one or reigning queen within. If it is the *scent* of the queen that enables them to exchange their identity, in *what manner* does the queen having the freedom of the hive, so impress upon the bees of her colony her own peculiar scent as to protect them against the depredations of thieving bees?

My bee-keeping friend, I believe that all this matter of the queen's scent is but a vapor cloud, and in due time will have blown away.

I will repeat that the key to success along this line of introducing queen-bees consists in having the queen in the best possible physical condition at the time she is to be given to the colony. She must be the peer of the colony—must be equal to their *expectations*. Not only must the queen evidence an *ability* to do good work, but she must manifest a *willingness* to do the same. Is it not enough to break the even tenor of her ways—the worker-bee's—to take away the queen in the prime and beauty of life, and offer instead, a poor, half-starved and frightened little queen to fill the place made vacant?

I have exchanged the queens of two colonies during the

season of surplus, and had each laying in the hive of the other within an hour of her removal. It is done this way: Catch both queens, and then close the hives; smoke each colony a little from the entrance, and then run the queen into the hive from there. The workers having seen that the queen is *eager* to attend upon her special duties, never bother themselves about her incense, but bestow on her every little kindness that was given the old queen. At that choice portion of the season the queen-bees are fullest of life, and neither colony is any the loser; hence there is no *cause* for dissatisfaction.

Never take a queen from the bees when her duties are imperative, and detain her in any way or manner till she begins to fade, if you wish to give her a chance to run the gauntlet with the most pleasing success.

This is the logical deduction of this matter, drawn from my experience with the honey-bees.

Scioto Co., Ohio.

Biographical.

JESSE M. DONALDSON.

On our first page this week is shown Mr. Jesse M. Donaldson, of Franklin Co., Mass., and his nice city apiary. He gives the following account of himself and his bee-keeping experience:

My first lessons in bee-keeping were learned in the early '70's, in the apiary of my uncle, James P. Sterritt, of Mercer Co., Pa. At that time I intended to become a bee-keeper, but, like almost all other boys, I had a desire to travel and see some of the world.

Nature had endowed me with very flexible joints, so I concluded to take advantage of that and become a professional acrobat and contortionist. In that line of business I visited every State in the Union, also Canada, Newfoundland, Mexico and Cuba.

I was married in May, 1886, and a few years afterward decided to quit the show business and "settle down." With that object in view I found employment in the shoe factory where I am now working.

Soon after settling here I became afflicted with that old disease—bee-fever. As it was the second attack, I knew the only remedy, and applied it at once by buying a colony of bees. I saw an advertisement in one of my bee-papers that read something like this:

FOR SALE.—400 colonies of Italian bees in 10-frame Langstroth hives, all in good condition. Price, $4.00 per colony, on board the cars here. Reason for selling, sickness.

I sent my $4.00, and in due time received the colony of bees, which I examined as soon as possible. When I saw the inside of that hive I began wondering which it was, the bees or the advertiser that was sick. If that colony was a fair sample of the other 399, it is no wonder that he was sick. Some of the frames were minus an end-bar, others had no bottom-bar, and the whole 10 frames did not contain enough worker-comb to fill six frames.

When I bought my first colony, I intended to keep just enough bees to supply my own table with honey, but I had so many calls for honey that I decided to increase the number of my colonies. I now have 25, but that is not enough to supply my trade, which is growing larger each year.

I have quite often seen this question asked, in the bee-papers: How near to a public highway is it safe to keep bees? If I were to answer that question I should say that much depends upon the strain of bees, and the way they are managed. My apiary, as shown in the picture, is centrally located in a town of 5,000 inhabitants, and not over 50 yards from three streets. When I moved my bees to my present location, many of the neighbors freely expressed their opinion that they would be a nuisance, but up to date I know of but one person being stung. Last Fourth of July morning, a few rowdies wanted the fence back of the apiary to make a bonfire, and while they were tearing it down they struck one of the hives. Then there was trouble. One of the crowd was stung several times. It may seem very strange when I say that he never entered a complaint against me.

If you will take another look at the picture you will see my two "swarm-catchers" standing at the end of the rear row of hives. They are not the automatic or patented kind, but as swarm-catchers they are a success, because they have not let one swarm get away. If a swarm issues, they are sure to see it; they first notice which hive it came out of, and then there is a race to the shop to see which one will tell me that the bees are swarming.

Franklin Co., Mass. JESSE M. DONALDSON.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Detecting Queenlessness in a Box-Hive Colony.

I have a box-hive in which is a large colony of bees. It wintered well, but seems to be at present without a queen. How can I tell that they have none? WISCONSIN.

ANSWER.—Give the bees a little smoke, turn the hive over, blow smoke down between the combs, pulling them apart at the same time, and if they have a queen you will be able to see sealed brood. Another way is to get from a movable-frame hive a piece of young worker-brood and crowd it between two combs so it will be held in place. Two days later if you find no queen-cells started on this brood, you may safely conclude they have a queen. If they are queenless, the bees are very old, and unless quite strong they are not worth a queen.

Dividing to Prevent Swarming.

I have moved 30 colonies of my bees three miles up the creek, right in the midst of hundreds of acres of alfalfa. Now I plan to divide them just as soon as the alfalfa commences to bloom, as I will not be able to watch for the swarms. I wish you would kindly tell me whether I can just put starters of foundation in the brood-frames that I put in, or *must* I have full sheets for fear they will make drone-comb? The way I thought to do was just to take out half of the frames of brood and bees and put them into a new hive, and then fill in the vacant spaces with frames with starters on. Of course I will try to be sure that they have young brood and eggs if I do not know they have a queen.

A year ago last winter I visited at the home of a sister of yours, in Denver, where I learned so many pleasant things about you, and Miss Wilson, too, that I feel quite as if I knew you, and that you will not laugh if I do ask foolish questions; I have nearly 300 colonies of bees to care for the coming summer, and all I know about bees is from reading. I have never even seen a properly conducted apiary, but I have managed to have this many bees with only 5 colonies to start with in 12 years, with only one year's failure, when most of my bees died during the winter and spring. I have very few new swarms of late years—I think it may be because I have so many bees in one place—150 colonies or more. COLORADO.

ANSWER.—If you divide the way you propose, you just must put in full sheets of foundation if you do not want a considerable proportion of drone-comb. I must confess I don't believe that's the best way to divide. It's one of the easiest ways, but not the way for best results. If you leave the queen on the old stand with half the brood, that part ought to do good work, but the other half will have no field-bees at first, and will be in a discouraged condition, which is not the best thing for rearing a young queen. You could use the nucleus plan without making very frequent visits, and have a chance for better queens. Or, here is a way that might suit you, with no nuclei in the case:

Get some good cells started, and when they are within three or four days of having the young queens emerge, make your divisions. Take from a colony all its brood but

one frame, and in this case you may use only starters, and have a fair chance for little drone-comb. That leaves on the old stand the old queen and the field-force, and if the colony is very strong you may risk shaking off a few of the bees into the old hive from the frames you remove. But all the old bees will return to the old stand in a day or two, and it might leave the new colony with hardly enough bees to care for the brood, so it will be safer to take all the adhering bees with the combs you put in the new hive on the new stand. Two days later take the remaining frame of brood from the old colony, and at the same time give to the new colony a sealed queen-cell.

I have a suspicion that you are not anxious for increase from these colonies, but intend to divide them because you know they will swarm if you do not divide. If that is the case, your plan is easy: Just before there is any danger of swarming, remove from its stand a hive and put in its place a hive filled with foundation, putting the queen in this hive, and putting over it a queen-excluder, over which you will place the old hive with its contents. When these two hives are so filled that more room is needed, you can put between the two stories and over the excluder a super either for comb or extracted. With this management you may count on freedom from swarming, unless your experience is exceptional, and you can make your increase nearer home where you can have it directly under your eye. You will readily understand that 21 days after operating there will be no worker-brood in any but the lower story. There may be some drones in the upper story that can not escape, but I have found this trouble more theoretical than real. The remains of the drones will be there the first time you open the hive, and you can easily shake them off the excluder.

Don't you be worried about asking foolish questions. Bless your heart, if you can study up any more foolish things than I have done in the course of my experience you must be an adept in the line of foolishness. The worst of it is that in my case I haven't yet outgrown it, and expect to make more or less blunders as long as I live. I confess to you (but this is only between ourselves) that I do sometimes feel a little impatient when some one asks questions that are plainly answered in every text-book published; but when one has studied the text-books carefully there will still be always plenty of questions to be asked, and with such I am quite willing to be flooded—glad to answer them just so far as I know how. And this suggests to me that you may ask why leave that one frame of brood instead of taking all, and then why take it away later. If the bees are left with larder entirely bare, they may desert the hive, and if the frame of brood is not taken away within a few days they may prepare to swarm. If you ask why they will swarm if that one frame of brood is left, I may explain that—that is—well, the fact is I don't know.

Gehring's Bee-Veil and Way of Smoking Bees.

I have been reading Mr. Gehring's series of articles now running in the American Bee Journal, but I don't quite like his bee-veil, nor his way of smoking bees before opening a hive. What do you think of them, Doctor?

BUNGHEAD.

ANSWER.—The bee-veil described by Mr. Gehring in his very interesting articles will answer a very good purpose, but is objectionable in one respect—it is made of too close material. When the weather is cool this will matter little, but on a hot day it would be very uncomfortable, and to wear it all day long on such a day would be, I should judge, a rather severe punishment. I wear a veil that has no closer material about it than bobbinet or cape-lace, and although that is so open that one might think it would not obstruct the air, yet actual trial shows that it offers decided obstruction, and when I have had one on for some time on a hot day it is a decided relief to get it off.

I doubt whether you would dislike his way of smoking bees before opening a hive, if you were actually to see him at work, for it is not very likely he does just as he says. It is quite common to say that a man preaches better than he practices. This is probably a case in which the practice is better than the preaching, and no doubt writing away from the hive he had not in mind as clearly as he might just what his practice was. Taking it, however, just as it reads, his first act was to blow smoke into the entrance for about 30 seconds, working the bellows with slow, steady pressure so as not to alarm the bees with the noise of quicker motions. Just what is meant by that last I do not fully understand, for it is hardly possible that any noise made by the smoker can alarm the bees a tenth part as much as the horrible flood of smoke that many of the bees have never before experienced. Indeed, the very object of the smoke is to alarm the bees.

I very much doubt that in actual practice Mr. Gehring blows smoke into the entrance for 30 seconds, first starting "a good volume of smoke." I have just been trying it by the watch, and working the bellows what I considered slowly I made 42 puffs in 30 seconds, and 69 puffs when puffing at the usual rate. That would certainly be an unnecessary amount of smoke, in some cases driving the bees out of the hive, and in any case frightening the bees so much that it would be difficult to find a queen. Then he waited a few minutes for the bees to gorge themselves. A "few minutes" would hardly be understood as less than three minutes. That would leave the bees in good condition to handle, but a practical bee-keeper would hardly feel he could afford to take so much time. If I may be allowed to refer to my own practice, instead of taking 3½ minutes from the first puff in the entrance before opening the hive, I do not take one-sixtieth of that time, for two or three puffs are all that are given, when, without waiting a fraction of a second for the bees to gorge themselves, I immediately open the hive, giving them two, three, or four puffs on top of the frames. That will usually be sufficient, but if at any time they show fight they get more. The humming noise spoken of is a proof of thorough submission; I would hardly consider it one of "satisfaction," but the opposite. Neither would I want to have the bees proceed to much of a humming noise unless I wanted to drive them out.

Using Old Combs—Getting Increase—Italians vs. Blacks.

1. Will the combs of a colony of bees that died with the dysentery do to use again?

2. I have 8 colonies of bees which I wish to increase to 20. Would you advise dividing, or natural swarming?

3. Are the Italians more apt to have dysentery than the blacks? I lost 3 colonies this spring—one being black, and all having the same chance. H. C. A.

ANSWERS.—Yes; scrape off the wood of the frame as clean as you can, and the bees will do the rest. Instead of throwing a swarm into a hive full of such combs, it will be better to get them first cleaned up by the bees, for if they are very filthy a swarm might object to them. Put the hive of combs under a strong colony and oblige the bees to pass through it to get in or out. But if you want that colony to swarm, don't leave the hive under it after swarming-time begins.

2. That's a somewhat difficult question to answer. If you have had little or no experience, perhaps natural swarming would be best. But taking the matter into your own hands will give you fuller control. Possibly a combination might be best. Wait for three or four of the first to swarm, then divide the old colonies into nuclei to be built up from those that have not swarmed.

3. Italians have not had the reputation for being more inclined to diarrhea, or any other disease than blacks. In fact they have been credited, especially in Australia, with being much better to resist foul brood than blacks. Your experience, however, looks as if your blacks resisted diarrhea better than your Italians.

Bees Cross at Swarming-Time.

I purchased 3 colonies of bees in the fall, and the person delivering them put them down in the most convenient place, and I let them alone until I could familiarize myself with them. I came home in the forenoon of April 20th, and found they had swarmed (about a peck measure full), so I had to make a virtue of necessity, and went about it according to the formula in the "A B C of Bee-Culture." I got a hive with full frames of foundation, laid it down on the top of a sheet, got a box and a turkey wing and went to sweeping them into the box (as they were clustered on a tight board fence under the top rail). I got some of them into the box, but it did not take me long to tumble what I had in the box down in front of the hive, and make a very hasty retreat.

Now I take it for granted that there was something wrong with my manipulation, for Mr. Root says that they would be so full of honey that they would not fight, but I need not tell you that I am nursing my wounds yet. I had

a brand new smoker, and got it out, but really did not know what to do with it. I got some rags, lit them, and went back in fear and trembling. I gave them a good smoking, took the same box (with a long-handle this time) and a long-handled brush, and got the bulk of them into the box, dumped them down again in front of the hive, and when they would not go in I smoked them in, and they stayed.

TENNESSEE.

ANSWER.—It is true that when bees swarm they are filled with honey, and are so good-natured that you may hive them bare-headed and bare-handed. But it is also true that *sometimes* they are cross enough, just why I don't know. Very likely there was no fault on your part, only you had one of the "sometimes" cases.

Transferring Bees.

Several weeks ago I bought 5 colonies, and found 2 of them very strong, and consequently did not disturb them. Two of them were very weak, so that only one frame could be covered in one, and two frames in the other. It happened that the old home-made frame fit in the new dovetailed hives which I use, and so I put them into the new hives.

1. Now, would I not better take from them both queens, and unite them into one hive, then give them a new queen? I think the queens are old.

2. Now, the fifth hive was a mess—it was chock-full of honey, and although it was a movable-frame the bees had built their combs diagonally in the frames. I began to cut out from one side where there were no bees, and proceeded until the fifth frame, when I came to the bees, then I lifted the remaining four frames bodily, and put them into a new hive. How can I get those bees out on straight combs? Would you advise leaving them and gradually coaxing them over on new frames filled with foundation?

PENN.

ANSWERS.—1. As your letter is written in April, it is quite possible that a colony very weak at that time may build up to good proportions by the time of the honey harvest. At any rate, it is a common observation that if two colonies that are very weak are in bad condition as to building up, the two united will hardly do any better.

Are you sure about the queens being old? If you are experienced in such matters you may judge somewhat by the appearance of the queens, but even then you may not be sure. If a colony threw out a swarm last year, you may know it has a young queen less than a year old. The swarm will generally have an older queen, although there may be exceptions. Generally, however, the bees will supersede a queen before she is old enough to be worthless. Very likely you will do well to leave the two colonies as they are, unless you want to introduce a new queen for the sake of improving the stock.

2. Yes, fill up the hive with frames filled with foundation, and let the bees work over upon it at their own sweet will.

Weak or Queenless Colony.

I have 2 colonies of bees, and both seemed to winter well, but I notice this morning a great many dead bees in front of one of the hives, and that colony seems weak and not nearly so active and strong as the other. What is the trouble and the remedy?

ALABAMA.

ANSWER.—It may be that there is nothing beyond the fact that the colony is weak. A good many bees die every winter, and some strong colonies will keep them carried away so that you may think that none were lost, while a weaker colony may leave them on the floor of the hive or at the entrance. The chief question is whether there is a good queen in the hive or not. Lift out the frames on which the bees are most thickly clustered, and see whether any brood and eggs are present. If you find nothing of the kind there, they are hopelessly queenless, and the bees left are so old that they are not worth fussing with. There is a bare chance, however, that they have reared a young queen that has not begun laying yet. In that case you may find no brood except a little sealed brood. If you want to make sure of it, give them a frame of young brood from the other colony, and if they start queen-cells on it you may believe them queenless; but if no queen-cells are started in two or three days, there is still hope they may have a queen. If they start cells, and they are sufficiently strong in bees, you may allow them to mature the queen-cell, but the game is not likely to be worth the candle. If you find the sealed brood in worker-cells raised like little bullets instead of being flat, you may know they have a drone-laying queen or laying-workers, in which case the only thing is to break them up.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

The Commonplace.

"A commonplace life," we say, and we sigh;
But why should we sigh as we say?
'Tis the commonplace sun in the commonplace sky
Makes up this commonplace day;
And the moon and the stars are commonplace things,
And the flower that blooms, and the bird that sings;
But dark were our fate, and sad were our lot,
If the flowers should fade and the birds sang not;
And God, who watches each separate soul,
Out of commonplace things makes this beauteous whole.

—Selected.

"DAD BUTTER"—HOME COURTESIES.

This would seem a curious text for our greeting to "The Home Circle" friends. Yet it suggests some valuable thoughts, as we shall see.

I taught my first school when I was young—in my teens. How vivid are some of the things of our childhood and youth! How stamped upon memory was the ride—11 miles—with my dear old father, as I went to try my skill at the teacher's desk. Among other wise things my father said was, "Start right." That might well be a text for any epistle or sermon. Again, "Never lose your self-control." A man near Claremont was shot yesterday—another man lost his self-control. The one will be marred through life, if not worse. The other will doubtless languish for months behind prison doors, and will have long, bitter, regretful thoughts. Did I say too much in a previous article? Can we say too much to our dear children at the very first, from cradle up, regarding the importance of self-control? I am glad my father impressed it upon me on that memorable ride, as I went to fashion the still younger lives.

Again, my father said, "Never be called in the morning." I was to "board around," and such evidence of energy he thought would win me favor. I think I was never called, and I was often first up, and in the quiet of those early hours I not only carefully read my New York Tribune (which was a good school for a school-teacher), but also read during the winter Irving's "Life of Washington." Whatever some may think of this advice, its results were certainly good in my case.

Again, father urged that I use no words that I would not use in the presence of the most refined ladies. This was good advice. I hope I followed it. Were I to train children to-day—were I to bring up my children again—I would start urging the "yea, yea," and "nay, nay," which the blessed Master enjoined upon all his disciples. There is something so sweet, wholesome, and impressive in the pure, direct speech, especially in these days of slang, that I wonder more are not enamored of it.

But why my text? I often noticed as I boarded with the good people, that the language of the children was not always courteous, respectful, refined. The people were for the most part—indeed, almost in their entirety—thoroughly good people; people who would sacrifice heavily to aid a neighbor who might need comfort or assistance; people who prided themselves upon their honesty; whose word was honored in matters of common report, or in business. It was a neighborhood that would soon empty itself in case the country should be threatened and assistance required. This was proved two or three years later, when the call for 100,000 men was sounded by that glorious man who then guided the great "Ship of State." It was a goodly folk to meet, and I used my opportunity and dwelt among them poor and rich alike. No home escaped my visitation. I have rejoiced ever since that the poorest and least respected

were not omitted in my visitations and sojourns. It is good to see how the other folks live. It is good to share with them their crusts, and break doughnuts with them in good-fellowship. I wish all our Carnegies, Vanderbilts, etc., could have taught school and have "boarded around" in the early, impressive years of their lives. It would certainly have wakened in them a real heart-sympathy for the hosts of poor people that would later be associated with them.

As I sat in all these homes, about the evening candle—those were still the candle days in the country homes; or, as we enjoyed the evening meal, or sat at the early breakfast, served usually by candle-light, and usually before six o'clock, I had good opportunity to study manners, and to note the words and address of my pupils in the close intimacies of their homes.

One morning, in my opening talk at the school, I essayed to inspire the pupils with more deference and courtesy in their associations with each other, and especially in the home. I was quite specific in urging them to politeness in the home, and at that best of places—about the home-table. I thought they seemed impressed, and that my examples of proper and improper address and phrase would sink deeply in their memories, and bear fruit in a better habit and manners in the homes and about the home meals.

That night we had hardly taken our seats at the supper-table, before one of the boys, in a large family of children, piped out in emphatic tones—"Dad butter!" I wondered if all my good advice and suggestions had taken as shallow root as in this case.

A lady said to me a few days agone, "How can we keep our children from slang?" I rejoice that mothers wish to. A flower, a mountain, a woodland, not only pleases the eye, it elevates the taste, and purifies the life. Ugly sights influence in just the reverse way. Happy the child who is only familiar with beautiful scenes, and lovely pictures of life and environment. Words are like pictures, they make or mar the taste, refinement, and the life. I have so often blessed God that I never heard a profane word, a vulgar phrase, and hardly a byword from my father's lips. I have three children; I think their language is so clean and pure that it would grace any company, and would never be criticised.

We parents wish so earnestly that our children should use only good words. We have the matter largely, if not entirely, in our own hands. First and best, we must be "living epistles." If we occupy the place every parent ought to hold in the minds and hearts of our loved ones, what we say, or do not say, will tell tremendously to fix their habits of speech. Example is our best weapon in this warfare.

Again, we must so interest ourselves in our children—be so one with them that our advice will always tell. Let us advise that bywords and slang, sarcasm and abrupt and discourteous phrases, be never heard in the home, or used by the children. "Dad butter" may get the unctuous solid, but I am sure it will not taste as good as if it came with, "Father, will you please pass the butter?" Home courtesy, and everything that makes toward it, is a rich adornment in every household.

When I left home for college my blessed mother said to me—her arms encircled my neck, her tears enriched the words, and a blessed kiss was her seal—"I am glad to know that no word, phrase or story will you utter that you would not be willing that your mother should hear." I am so glad my mother said it. I believe my college life did not disappoint her. How I rejoice that it did not.

To paraphrase: "A word fitly spoken is like apples of gold in pictures of silver." I hope none of our "home circles" will be marred by any other.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

The Premiums offered this week are well worth working for. Look at them.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses. By E. E. HASTY, Sta. B Rural, Toledo, O.

THE UNCAPPING FORK.

If the implement known as the uncapping fork has been in use 20 years, and has occupied all that time in getting itself heard of on this side of the world—well, one would say it can hardly be of very great value. Perhaps that's not the way to look at things, however. At any rate the slowness of truth when chasing a popular falsehood seems to have found its match. This is anent those pictures furnished by Mr. Griener, on page 215. All tools for uncapping, one would say, which operate like a garden-rake, and draw all they get hold of in front of them, must manifestly be self-clogging and too slow for general business.

THE UNCAPPING ROLLER.

How about that roller full of fine prickers to puncture the cappings instead of removing them? Can it be depended on to *let go* of the cappings? The prickers must be near together else some of the cells will be missed; and if near together will it not, first you know, pull off small patches of capping and hold on to them until its operation is clogged? I have a little pricking arrangement not a roller which deports itself in about that style; and picking things clear is an unendurable waste of time. Perhaps a rolling motion instead of a patting motion would obviate that, in whole or in part. I fear, however, that the uncapping roller is one of the Galatians—"run well for a time"—and short time at that. It is by no means absolutely necessary that an uncapping device should remove the cappings at all. It's nice to have that done; but if the new device works rapidly enough, and well enough, we can afford to float out the cappings with the inverted syphon, or lift them off the gravity tank. There is another thing to be thought of, however. If we give back most of the cappings to the bees in a ragged condition they may take a notion to throw away the most of them, to our serious loss.

MR. CHAPMAN'S METHODS AND MANAGEMENT.

The long article of S. D. Chapman, pages 215-217, very valuable as it is, needs lots of discrimination on the part of the reader. Things which will work in one locality will not work in another; and a *series* of two or three operations may work well when the most captivating member of the series, torn out and used alone, might be ruinous. Or, again, take the plan of killing all queens early in July—the man who *overworks his queens* so that they need killing has a great deal more occasion to follow that plan than the man does whose bees run their brood-rearing according to their own sweet will—albeit there are *some* other reasons not directly connected with premature old age.

The idea that queens will lay much faster in the middle of the brood-nest than in outside combs will come to some of us as rather a novel one. It is quite likely to be correct; and if correct it is a large-sized item to conjure with.

Another prominent idea is not exactly new, but one which many of us have entertained (perhaps a little sheepishly or clandestinely) that the time spent on very weak colonies in spring is time thrown away.

I note that he does not claim for his diligent taking out of brood and putting in of empty combs that it doubles the size of the colony, nor yet half doubles it, but only puts it 40 percent to the good. It is of value to have the experience of an expert that a dozen queens hatching in an upper story do not necessarily make the colony swarm. I believe it has been said that running the same colony for both section-honey and extracted is a practice poor if not uneconomical. Here we have a forcible and plump denial at strong hands—more bees, and more comb honey, and some extracted honey as a sort of free gratis.

Raspberry bloom and berries in all stages in northern Michigan up to November 1st, is simply another of the many evidences that last autumn was a very abnormal one indeed.

That out of 140 colonies 80 should neglect to start cells when queens were killed, until brood was all too old, is a very strange experience. Good case to bear in mind as evidence that "one can't pretty much always tell" what bees will do, or what they will not do.

QUEENS!

Improved Golden and Leather-colored Italians are what **H. G. QUIRIN** rears.

We have one of Root's best longue-tongued **Red-Clover Breeders** from their $200 queen, and a Golden Breeder from Doolittle, who says if there is a **BREEDER** of golden bees in the U.S. worth $100, this one is worth that sum. The above breeders have been added to our already improved strain of queens for the coming season.

J. L. Gandy, of Humboldt, Nebr., wrote us on Aug. 5th, 1900, saying that the colony having one of our queens had already stored over **400** pounds of honey (mostly comb); he states that he is certain that our bees work on **Red Clover**, as they were the only kind in his locality and apiary.

A. I. Root's folks say that our queens are extra fine, while the editor of the American Bee Journal tells us that he has good reports from our queens from time to time. We have files upon files of unsolicited testimonials.

After considering the above evidence, need you wonder why our orders have increased each year? Give us a trial order and be pleased. We have years of experience in mailing and rearing queens. Safe delivery will be guaranteed, and instructions for introducing sent with each lot of queens.

QUEENS NOW READY TO MAIL.
Prices before July 1st:

	1	6	12
Warranted stock	$ .75	$ 4.25	$ 8.00
Selected warranted	1.00	5.50	9.50
Tested	1.50	8.00	15.00
Selected tested	2.00	10 50	
Extra selected tested, the best that money can buy,	4.00		

Folding Cartons, with your address printed on in two colors, $4 00 per 1,000; 500 for $2.75.
Address all orders to

H. G. QUIRIN, Parkertown, Ohio.
(Parkertown is a Money-Order Office.)

By contract this ad. will appear twice per month only. 14E13t

Please mention Bee Journal when writing.

BULL-STRONG!

....PIG-TIGHT....

An Illinois farmer said that after harvest he had fully 200 bushels of loose oats on the ground that he could not secure any benefit from, because the fence around the field would not turn hogs. Figure the loss for yourself. He also said, all this would have been saved if he had used the Kitselman Woven Wire **Coiled Spring Fence**, and the value would have gone a long ways towards paying cost of the fence.

With the **Duplex Machine** any farmer can make it himself at the actual cost of the wire. Catalogue free for the asking.

KITSELMAN BROS.
Box 116 **Muncie, Ind.**

Please mention Bee Journal when writing.

1860——1901

THOSE LONG-TONGUED ADELS!

WHITE ROCK, MINN., April 10, 1901.
The Adel Queens I got from you are more than you claimed for them. I want n more.—S. W. JACKSON.

ONECO, CONN., April 15, 1901.
The Adels have wintered finely, and I like them very much. I want more Queens. Send price-list.—REV. T. B. MOWREY.

I guarantee any Queens sent out from my apiary and sold for $1.00 each to be as good as any $10 Queens sold by any dealer. PRICE-LIST NOW READY.

15E2t **HENRY ALLEY, Wenham, Mass.**

Please mention Bee Journal when writing.

CAREER AND CHARACTER OF ABRAHAM LINCOLN.

An address by Joseph Choate, Ambassador to Great Britain, on the career and character of Abraham Lincoln—his early life—his early struggles with the world—his character as developed in the later years of his life and his administration, which placed his name so high on the world's roll of honor and fame, has been published by the Chicago, Milwaukee & St. Paul Railway, and may be had by sending six (6) cents in postage to F. A. Miller, General Passenger Agent, Chicago, Ill.
18A3t

GENERAL ITEMS

Bees Beginning the Season Well.

We are having an early spring in this part of the State, and a good one, too, with the exception of a little north wind.

I have some colonies that are already filling their second super with comb honey this season. W. T. FRANCIS.

Sutter Co., Calif., April 14.

Wintered on Granulated Sugar.

Mr. Gill, a bee-keeper here, put a colony on nothing but granulated sugar in the fall, and they wintered as well as those with an abundance of stores of honey. Another neighbor "took up" his bees, and Mr. Gill simply shook them on dry combs into another hive, set it in the same place, and put on a Miller feeder containing 15 pounds of sugar.

The season here is fairly early.

T. PROCTOR OTIS.

Quebec, Canada, April 24.

Cold and Misty New England.

We have had hard weather for bees. April has allowed only three days for pollen-gathering thus far. Mist and rain have been the prevailing things in New England. The consequence is, that bees have alternately started brood-rearing then ceased. The patches of brood are very ragged. Ten days of cold, misty weather at a stretch will put a dead-stop to brood-rearing. ALLEN LATHAM.

Norfolk Co., Mass., April 28.

A Cloudy, Rainy April.

Bees have had a hard time—only 22 hours of sunshine in 26 days in April. On all other days it rained hard. No doubt good results will come from this soaking, as this part of the globe had not been wet down for the past three years. Wells were dry, springs were low, and now the wells and springs are full—also a good many cellars.

Bees are doing well now, carrying in pollen.

HENRY ALLEY.

Essex Co., Mass., May 1.

Experience in Growing Cleome.

On page 244 the editor asks for information concerning cleome. I raised it last year in our garden, where the soil is dry rather than wet, but of course it was watered every day. It grew so thriftily that one so inexperienced as I might suppose it would grow almost anywhere. Our garden had only the spade to loosen the soil as a preparation, and the seed was planted near the first of May. It grew quickly, and transplanted kindly when about 3 inches tall. The plants should be set at least three feet apart, as it branches extensively, and every branch flowers. Mine grew from 3 to 5 feet or more tall, as I remember them. The leaves resemble the leaves of the horse-chestnut, and many are quite as large. The plant is slightly thorny and somewhat aromatic, exuding a sweet juice, or dew, in perceptible but almost infinitesimal drops. It began flowering the last of July, growing from what appeared to be an umbel of buds into a spike of flowers; the showy spike lengthening and blooming until cut off by the frost. Strange to say, every flower in the garden succumbed to the frost before that did, so that it was not only a "thing of beauty," but of interest, because I had supposed it to be a semi-tropical plant. The flowers are very odd, the long stamens growing on one side of the four petals; the seed-pods are very long, growing on long stems, and these clothe the spike while the upper part is in the bud and in full flower. Perhaps these give the plant the name it sometimes bears, that is, "the spider-plant."

It grew so easily for me in my first attempt at gardening that I think if I had a farm, or

Tennessee Queens!

Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3¼ miles apart, and mated to select drones, $1.50 each; untested warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and but few within 5 miles. 28 years' experience. Discount on large orders. Contracts with dealers a specialty. **JOHN M. DAVIS,**
6A26t **Spring Hill, Tenn.**

Please mention Bee Journal when writing.

Bee-Keepers' Supplies.

Just received a consignment of the finest up-to-date **HIVES** and **SECTIONS** we've had. They are 2d to none. Complete line of **Bee-Keepers' Supplies** on hand. Bees and Queens. Catalog free.

THE A. I. ROOT CO.,
H. G. ACKLIN, Manager,
1024 Miss. Street, St. Paul, Minn.
14Atf Please mention the Bee Journal.

LONE STAR APIARIES

Price of Queens from Imported Mothers:

Tested..1—$ 1.50	
Un " ..1— .75	
Tested..6— 6.50	
Un " ..6— 4.00	
Tested..12— 12.00	
Un " ..12— 7.00	

(Golden, same price.) Select tested, either race, $2.50. Write for circular.

G. F. DAVIDSON & SONS,
Establisht 1885. FAIRVIEW, Wilson Co., TEX.
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That covers the whole Apicultural Field more completely than any other published, send $1.25 to

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FOR HIS
"Bee-Keeper's Guide."
Liberal Discounts to the Trade.

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Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.

WALTER S. POUDER.
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Standard Belgian Hare Book!

BY M. D. CAPPS.

THIS book of 175 pages presents a clear and concise treatment of the Belgian Hare industry; its growth, origin and kinds; the sanitation and construction of the rabbitry; selection of breeding stock; care of the young, feeding, diseases and their cures, scoring, marketing, shipping, &c. First edition of 50,000 copies was sold in advance of publication.

Price, in handsome paper cover, 25 cents, postpaid; or with the American Bee Journal one year—both for only $1.10.

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144 & 146 Erie Street, CHICAGO, ILL.

large piece of land, I would loosen up the soil, and set a plant here and there in the pasture, and even by the roadside, and should expect it to grow, because some of the plants I set out were in rather poor soil—a little sandy—and not one failed to grow.

I might add that during the first of the blooming I did not find the bees very frequent visitors, seldom seeing any, but at the last of the season they seemed to appreciate it, perhaps because most other flowers were gone.

I said it was watered every day, but I am mistaken about that, although I found that the plant did not resent the neglect.

THEO. F. B. GIDDINGS.

Hennepin Co., Minn., April 25.

Bees Expelling Water from Nectar —Fruit-Bloom Honey.

Prof. Cook says on page 149, in his "Review of A B C of Bee-Culture:"

"I have always wondered at the statements we so frequently see of bees expelling water from the honey while on the wing. I never saw it, and I don't believe they do it," etc.

I was indeed surprised to read this from Prof. Cook. I have seen bees expel water from the honey as they left buckwheat fields for the hives, and I think all doubt will be removed from the minds of those who do not believe it if they will get bees to work on a piece of comb containing honey as bee-hunters fix it. Then have some honey so diluted with water that it will be only sweetened water, but sweet enough so that the bees will work on it readily. Now put some of this into an empty comb, remove the original comb, and place the watered honey in its place. Watch these bees as they fill themselves from this and circle around before they take the "bee-line" for home, and I think if your eyesight is good you will no longer doubt that they expel water, and it is not always a very "fine mist," either.

I have used very thin syrup when hunting bees, for nearly 25 years, as I found by repeated experiments that a bee would fill itself to its uttmost capacity, and then after expelling a quantity of the load in the form of water (soon after leaving the box, and always before she got out of sight), make the trip of one or two miles, and return in much less time than when a thick syrup of honey was used for bait. All good bee-hunters know this.

On the same page Prof. Cook speaks of Mr. Root being in error about fruit-bloom honey. I think Mr. Cary called Mr. Root's attention to this, and he acknowledged his mistake. I have seen hundreds of pounds of pure apple-blossom honey at the apiary of Mr. Cary, and have had a few cases of comb honey gathered from it by my own bees. With the exception of raspberry honey it is the finest we have.

Worcester Co., Mass. JAMES. F. WOOD.

Three Hive-Bodies Per Colony for Extracted Honey.

On page 137 I read the questions on ventilating supers, and then I read Dr. Miller's replies, and was very glad to find that I was walking to some extent in the footsteps of such a great bee-keeper as Adam Grimm. I run entirely for extracted honey, and for every colony I use three 8-frame dovetailed hive-bodies and one super. I winter them on the summer stands in two hive-bodies each, and in the spring I feed so as to cause all to swarm once and no more. The parent colony is left all summer by the old stand, and facing at right angles to it, and when it is required I place a super on it, but as soon as a swarm issues I put a ventilator under the old colony, about 1¼ inches deep, opened along both sides, but covered with wire-cloth. Then I hive the swarm, which is generally very large, and under that I put a ventilator 3 inches deep; about three days after they swarm I examine the parent colony, take it with eight of the frames that are nearest to being hatched out, and put it on top of the new colony with a honey-board between and another ventilator on top 1½ inches deep. So you see there is plenty of ventilation, but in case of a stoppage of the honey-flow I am not afraid of robbers.

My principal reasons for using three hive-bodies to the colony are as follows:

First, I can renew my queens at will. As soon as the season is over, and I put them away for winter, if the parent colony has a prolific young queen I put the parent colony on top of the swarm, first killing the old queen.

Second, I depend upon the parent colony to put away enough honey for winter stores for both outfits, as I find as a rule that the swarms do not store enough to winter on—just a little strip along the top of each comb in the bottom story.

Third, by this method of doubling up every fall I have the same number year after year, and do not have so many combs to protect from bee-moths.

We have had a very mild winter, and bees have flown at least one day in every week, and now I have them busily engaged in carrying artificial pollen to the hives. I use from one to five pounds of flour a day mixed with flaked oatmeal, and they visit it by the thousands, and I expect the hum of these bees would beat the "Hum of the bees in the apple-tree bloom." At night I feed a quart of syrup made from 30 pounds of the best granulated sugar, 40 pounds of water, and 15 pounds of honey. I think fruit-bloom will start next week, then my work will be over for awhile.

W. H. ALDER.

Callahan Co., Tex., March 4.

More Rain in California.

It began to rain last night, and up to the present time (8 p.m.) it has rained three-fourths of an inch. This is the first rain in the San Gabriel Valley since Feb. 7th.

J. T. HADDOCKS.

Los Angeles Co., Calif., April 30.

Worst Spring for Years.

My bees came through the winter seemingly stronger than when closed up in the fall. They brought in pollen and honey April 4th—four days earlier than last year. Then we had a cold, wet time, killing all the early blossoms, for two weeks or more, and the bees had a hard time to live, as they had a quantity of brood—in fact, it has been the worst spring for bees we have had in years. The past few days everything has been coming rapidly forward, and the trees are in bloom, yet there is a lack of moisture, and there seems to be no nectar in the blossoms. I have made a few improvements or discoveries during the past season, and will write about them later. D. H. METCALF.

Calhoun Co., Mich., May 4.

Report from the "Old Dominion."

I began the season of 1900 with 47 colonies, spring count, and increased to 52, working on Doolittle's plan of spreading brood. I met with perfect success in using that plan, securing populous colonies which were in readiness when the honey-flow came. We destroyed all drone-comb in colonies we did not wish to breed from, selecting from colonies with the best and brighest drone-breeders, and also selecting from colonies with the best layers and honey-gatherers to rear queens from.

Our honey season was tolerably good during the months of June and July, when our bees gathered the most surplus. During August and September the bees did not do much, but the latter part of September and the first of October they laid in a good supply for winter stores from wild aster and goldenrod, and some surplus from smartweed.

We tried the Golden plan on one colony, and found it a complete success. We shall adopt it to some extent during this season. We want to increase to 65 or 75 colonies.

Our bees came through the winter all right with the exception of two that became queenless, and we have 48 colonies now. During the month of February the weather was very mild and pleasant, but it doesn't look now as if we were going to have much of a honey season, as the snow is flying in all directions,

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.

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BEES AND QUEENS

Having been 28 years rearing Queens for the trade on the best known plans, I will continue to rear the best.

PRICES:

One Untested Queen.....$1.00
One Tested Queen 1.35
One Select Tested Queen 1.50
One Breeder..... 3.00
One Comb Nucleus 1.80

Belgian Hares

Choice, pedigreed and common stock; youngsters, $3.00 per pair. Write for description and prices.

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Clarinda, Page Co., Iowa.
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Do You Want a
High Grade of Italian Queens
Or a CHOICE STRAWBERRY?

CHICAGO, ILL., Jan. 28, 1901.

D. J. BLOCHER, ESQ., Pearl City, Ill.

Dear Sir:—Your quotations on 48 untested Italian Queens, ready for delivery by May 18, 1901, at hand. It being the first offer out of several inquiries, and, besides, you having promptly favored me with queens last year, you may, in appreciation thereof, have the order.

Yours truly, L. KREUTZINGER.

Prices for May and June:

Number of Queens.....	1	6	12
GOLDEN QUEENS.			
Untested.....	$1.00	$ 5.00	$ 9.00
Tested.....	1.25	7.00	11.00
Select Tested.....	2.00	10.00	17.00
Breeders.....	5.00		
HONEY QUEENS.			
Untested.....	$1.00	$5.00	$ 9.00
Tested.....	1.25	7.00	11.00
Select Tested.....	1.50	8.00	13.00

Safe arrival guaranteed. Descriptive price-list free.

D. J. BLOCHER, Pearl City, Ill.
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We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog.

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Northern Italian Queens!
Reared from Imported Mothers.

Our stock is so carefully bred and selected, as to secure car-loads of honey. Locality free from foul brood and other bee diseases. Prices: 1 untested Queen, $1.00, 6 for $5.00; 1 tested Queen, $1.50, 6 for $7.50; best imported Queens, $6.00; fair imported, $5.00.

ADA L. PICKARD,
18E7t RICHLAND CENTER, WIS.

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EXCURSIONS TO BUFFALO EXPOSITION—via Nickel Plate Road,

On May 7th, 14th, 21st and 28th, respectively, at rate of $13.00 for the round-trip from Chicago; good returning 5 days from date of sale. Three through trains daily, with vestibuled sleeping-cars and first-class dining-car service. For particulars and Pan-American folder, write John Y. Calahan, General Agent, 111 Adams Street, Chicago. Depot: Van Buren St. and Pacific Av., Chicago, on Elevated Loop.

No. 8—20A2t

and the mountains around about us are clad in mantles of snow.

Our crop last season amounted to over 3,000 pounds of comb honey (we do not extract any), which we consider pretty good for the season, as there was a drouth which cut our corn crop short by over one-half.

P. I. HUFFMAN.

Rockbridge Co., Va., April 22.

Clipping Queens' Wings.

G. M. Doolittle enumerates the advantages in the American Bee-Keeper, viz.: Greater ease of finding a clipped queen in a hive; security against runaway swarms; freedom from climbing trees or getting swarms from difficult places. Either one of which might be sufficient reason for the practice.

Queens Mating in the Hive.

This is reported in Gleanings in Bee-Culture by H. L. Jeffrey as a success, but Editor Root thinks there may be some mistake about it.

A Swarming-Stick.

For those who depend upon having their bees settle so as to hive them, it is by no means a pleasant thing to have the cluster on a very high tree, or in the middle of some thorny shrub, tree, or hedge. Mr. J. F. Munday has this to say about a "swarming-stick" which he uses:

It is therefore advisable for a bee-keeper to prepare suitable places near his apiary for his swarms to settle on. The plan I adopted was the following: I bored an auger-hole in the top rail of the fence which enclosed my apiary. I then got a stick about two feet long, one end of which would slip into the hole made in the rail; on the other end of the stick I fastened a small bag of dry grass about the size of a small pumpkin. Before making the bag, I placed the material of which it was made (a piece of maize-bag) on the top of the frames of a hive of bees for a few days to obtain the scent of the bees on it. Well, I simply placed this stick with the little bag of grass on it in the hole made in the rail of the fence, and I had the satisfaction of seeing my swarms settle on it, or rather them, for I had four of them in different places.

Now, I do not wish to imply that *all* my swarms settled on these prepared places, for they did not, but the majority of them did, and when they did, after placing a hive ready for their reception, I gently removed the stick with the swarm on it from the hole in the rail and carried it to the hive. With another little stick I carried, or with my hands if I had not got one, I detached a few bees from the cluster, letting them fall at the mouth of the hive, and when I noticed them entering the hive satisfactorily I shook off the rest of the swarm, and when most of the bees had entered the hive I returned the swarm-stick to its place in the fence again.

Foul Brood—An Important Subject.

Every little while there comes a frantic inquiry from some bee-keeper to know what is the matter with his bees, and what he shall do for them. He suspects the presence of foul brood, but is in utter ignorance as to what the symptoms are. Heretofore he has seen much about foul brood, but has always skipped it in his reading—let those troubled with the disease trouble themselves with the reading. The wise bee-keeper will not wait till he is per-

BEE-KEEPERS' SUPPLIES

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Our New 1901 Fifty-Two Page Catalog Ready.

Send for a copy. It is free.

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Branch, G. B. Lewis Co., 19 S. Alabama St., Indianapolis, Ind. Excellent shipping facilities and very low freight rates for Southern and Eastern territories.

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Where they have direct steamboat connections with Massachusetts, Rhode Island, Connecticut, New Jersey, Delaware, North Carolina, South Carolina, Georgia and Florida, and low freight rates.

As this is a main branch, order from any catalog or quotations given from Medina.

Also booking orders for healthy ITALIAN BEES, shipped this month. Full colonies, 8 frames and queen, $6.00. Wholesale rates on application.

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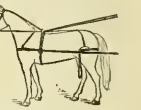

No. 191. Fancy Body Top Buggy; is complete with side lamps, fenders, side curtains, storm apron and shafts. Price $53, as good as dealers sell for $80. Write for Illustrated Catalogue—FREE.

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A Word to the Wise Bee-Keeper

Is the title of an essay on queen-rearing. Sent free to all applicants. Address,

19A4t HENRY ALLEY, Wenham, Mass.

BEE HIVES, SECTIONS AND ALL BEE-KEEPERS' SUPPLIES.

Big Catalog Free. Write now. Leahy Mfg. Co., 2415 Alta Sita, E. St. Louis, Ill.

6Atf Mention the American Bee Journal.

SOUTH DAKOTA FARMS

Is the title of an illustrated booklet just issued by the Chicago, Milwaukee & St. Paul Railway, descriptive of the country between Aberdeen and the Missouri River, a section heretofore unprovided with railway facilities, but which is now reached by a new line of the Chicago, Milwaukee & St. Paul R'y. Every one contemplating a change of location will be interested in the information contained in it, and a copy may be had by sending a 2-cent stamp to F. A. Miller, General Passenger Agent, Chicago, Ill.

19A3t

Marshfield Manufacturing Company.

Our Specialty is making SECTIONS, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

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28 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 28 cents a pound—CASH—for best yellow, upon its receipt, or 30 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., CHICAGO.

sonally interested, but will inform himself in advance. Then if some trouble arises he will not be foolishly alarmed when not the slightest symptom of the dread disease is present; and on the other hand, the disease will not be able to steal a march on him, for he will be ready to detect it on sight, and to battle it before it makes serious headway. In the Rocky Mountain Bee Journal the ex-secretary of the Colorado Bee-Keepers' Association gives the symptoms and cure in the following very succinct manner:

THE SYMPTOMS.

The larvæ of the bees turn brown in open cells; the cappings of some of the brood are sunken, have occasionally small perforations, and contain dead larvæ in a putrid condition, of a brown or coffee color and a ropy consistency. This latter characteristic is the most striking symptom of the disease. To demonstrate this ropiness, stick a toothpick into the brown mass, twirl it around once or twice, and draw it out; if it adheres to the toothpick, and pulls out in the form of a string, you can be sure that it is a case of foul brood. In the more advanced stages of the disease a disagreeable glue-like odor is often perceptible.

THE CURE.

The best time to free bees from foul brood is during the honey-flow, as they are then in proper condition to bnild combs quickly, and the danger of robbing is at that time reduced to a minimum.

Towards evening transfer the bees; to do this remove the affected colony from its old stand, and place it a little distance to the rear. Take a new or clean hive filled with frames containing either starters or full sheets of foundation, set in exactly the same position where the old one stood, and hang sacks or lean boards in front of the adjoining hives to prevent the bees of the affected colony from entering them.

Open your foul-broody colony, using very little smoke in doing so; shake the bees off the combs on paper previously placed in front of the new or clean hive, and run them in. The utmost care must be exercised not to drop any honey or comb on the ground.

As the latest experiments have shown that boiled honey from diseased colonies is not safe to feed back to the bees, we urgently advise to burn up completely all combs of diseased colonies. To do this, a deep hole should be dug beforehand, a good fire started in the same, and the combs and frames burned in it. Afterwards the hole should be completely filled with earth to cover up any honey which may remain.

If you wish to save the hive, paint the inside of it all over with kerosene or gasolene and drop a lighted piece of paper into it. After the whole inside of the hive is slightly charred, smother the fire by putting on the cover. FRANK RAUCHFUSS.

Bees Deserting for Want of Pollen.

In the Australasian Bee-Keeper it is said that H. L. Jones found his nuclei unmanageable through swarming out, and he discovered a pollen famine was the cause. As soon as he gave the bees a substitute for pollen the trouble ceased.

CONVENTION NOTICE.

Illinois.—The spring meeting of the eastern division of the Northern Illinois Bee-Keepers' Association will be held at the residence of B. Kennedy, 7 miles southeast of Rockford, Ill., on Rural Route No. 5, and 3 miles northeast of New Milford, Ill., Tuesday, May 21, 1901. All interested in bees are cordially invited to attend.

B. KENNEDY, Sec.

Wanted A MAN EXPERIENCED in an apiary, to take charge of 30 colonies and increase same to 150. Apply with recommendations, to SHEWMAKER, AUGUSTA, GA. 20Alt

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105 Park Place, - NEW YORK, N. Y.

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PAN-AMERICAN OPENING.

The Nickel Plate Road will sell excursion tickets from Chicago to Buffalo at $13.00 for the round-trip on each Tuesday in May (the 7th, 14th, 21st and 28th,) with limit of 5 days, namely: returning good on any train to and including midnight train from Buffalo on Saturday following Tuesday tickets are sold. They will be good going on all trains on date sold.

Daily train from Chicago at 10:30 a. m., arrives Buffalo 2:05 following morning; daily train from Chicago at 2:30 p.m., arrives at Buffalo 7:35 next morning; daily train from Chicago at 10:30 p.m., arrives Buffalo 4:45 next afternoon.

All trains carry through vestibuled sleeping-cars. Individual Club Meals, ranging in price from 35 cents to $1.00, and no meal in excess of the latter figure, are served in dining-cars.

For sleeping-car reservations and all other information, call at Chicago City Ticket Office, 111 Adams St., or write John Y. Calahan, General Agent, 111 Adams St., Chicago, 'phone Central 2057. Chicago Depot: Van Buren St. and Pacific Ave., on the Elevated Loop.

No. 7—20A2t

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, May 7.—There is very little being done in honey at present with practically no demand for the extracted grades; several consignments on sale here for some time, without any bids being made. A little choice white comb sells in a retail way at 10c, with all other grades scarce and firmly held at about former prices. Extracted, 7@8c for fancy white; ambers, 6@7c; dark, 5@5½c. Beeswax, 30c.

R. A. BURNETT & Co.

BUFFALO, May 2.—Fancy 1 lb. comb, 15@16c; all other grades dragging at 8@12c, as to grade, and not wanted. Extracted not wanted. Fancy beeswax, 27@28c; other proportionately less.

BATTERSON & Co.

OMAHA, May 1.—Comb honey, extra white, 24-frame cases, per case, $3.40; No. 1, $3.25; amber, $3.00. PEYCKE BROS.

NEW YORK, May 3.—We report aquiet market on all lines. While the old crop of comb honey is well exhausted, still there is some arriving, which has been carried by the producers, evidently, for a higher price Values are mostly nominal now, and it is only a firstclass fancy article that will sell at quotation prices. We quote:

Fancy white, 15c; No. 1, 13c; amber, 11@12c; buckwheat, 9@10c. Extracted is decidedly dull, and very little inquiry. Old crop of California light amber and partly white, is now being offered as low as 4½c a pound f.o.b. coast, which, of course, hurts the sale of other grades to a large extent. Beeswax is firm and sells on arrival at from 28@29c.

HILDRETH & SEGELKEN.

CINCINNATI, Apr. 18.—The demand for comb honey is nearly over. The stock of it also well cleaned up. Fancy white brings 16 cents. Extracted is in fair demand; dark sells for 5½c; better grades bring 6@7½c; fancy white clover from 8½@9c. C. H. W. WEBER.

KANSAS CITY, May 4.—Practically no shipments arriving, and very little selling. We are getting $3.50 to $3.65 per case of 24 sections No. 1 white; amber, $3.00 to $3.25. Beeswax scarce at 25c. W. R. CROMWELL PRODUCE CO.,

Successors to C. C. Clemons & Co.

ALBANY, N. Y., May 3.—Honey market very dull. Very little call for anything but choice comb honey, of which there is a scarcity. Extracted quiet. H. R. WRIGHT.

BOSTON, May 4.—Fancy white comb honey we quote at 17c: A No. 1, 16c; No. 1, 15@16c. No call at all for dark honey this year. Water-white extracted, 8@8½c; light amber, 7½@8c. Beeswax, 27c.

Our market on comb honey is firm with light stocks and a fairly good demand for this time of the year. BLAKE, SCOTT & LEE.

SAN FRANCISCO, May 1.—White comb 11@12 cents; amber, 8@10c; dark, 6@7 cents. Extracted, white, 5@6c; light amber, 4@4½c; amber, 3½@4c. Beeswax, 26@28c.

The market inclines in favor of buyers, with considerable honey offering, spot and to arrive, and the inquiry not very active. There is some of last year's honey still in stock, one jobbing firm being reported as having about 3 car-loads, including comb and extracted.

Forced Sale. RARE BARGAINS in Bee-Supplies. All kinds; some slightly shopworn but otherwise up-to-date.

CASCADE BEE-HIVE CO., River Falls, Wis.

For Sale My Apiary—consisting of between 50 and 75 colonies of bees.

20Alt Address, W. H. DUNCAN, Lawrence, Kan.

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BRASS, to order, 4-inch, $1.75; 3½-inch, $1.35; 3-inch, $1.25. TIN—4-inch, $1.50; 3½-inch, $1.10; 3-inch, $1.0; 2½-inch, 90 cts.; 2-inch, 65 cts.—per mail free.

Bingham Smokers never lose fire—always READY. 23 years the best and cheapest—and always will be. Bingham & Hetherington Uncapping-Knife is the best also. See May 9th No. American Bee Journal, or send for circular for description.

T. F. BINGHAM, Farwell, Mich.

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OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

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Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

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We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	70c	$1.20	$2.75	$5.00
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White Clover	90c	1.70	4.00	7.50
Alfalfa Clover	80c	1.40	3.25	6.00
Japanese Buckwheat	30c	.50	1.00	1.60

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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144 & 146 Erie Street, CHICAGO, ILL.

Wanted Middle-aged woman, of good character, free from incumbrance, to work in the apiary and in the house. Address, W., 135 Main Street, Batavia, Ill.

Please mention Bee Journal when writing.

I ARISE

To say to the readers of the BEE JOURNAL that

DOOLITTLE...

has concluded to sell QUEENS in their season during 1901, at the following prices:

1 Untested Queen ..$1.00
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Select Tested Queen, last year's rearing..2.50
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Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
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The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

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... AT BUFFALO ...

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Will contain a very interesting series of articles on Queen-Rearing, giving New Methods and Short Cuts. There will also be a series on

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., MAY 23, 1901.

FORTY-FIRST YEAR No. 21.

WEEKLY

APIARY OF MR. J. B. ALEXANDER, OF PULASKI CO., ARK.

(See page 326.)

THE AMERICAN BEE JOURNAL

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GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

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The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

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National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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☞ If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Secor, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

DR. PEIRO has removed to 78 State Street, Chicago, opposite Marshall Field's, where he would be pleased to see friends of the American Bee Journal at any time when they are in the city.

G. M. DOOLITTLE "gets off" the following in one of his editorials in the Progressive Bee-Keeper for May:

PACKING POLLEN.—An amateur bee-keeper once told how this was done in these words: "When a bee brings pollen into the hive, she advances to the cell into which it is to be deposited, and kicks it off; another bee, one of the indoor hands, comes along and rams it down with her head and packs it into the cell as the dairymaid packs butter into a firkin. The paper publishing, said, "We prefer not to have any dairymaid pack our butter that way." Another paper seeing both of the above, remarked, "If our butter must be packed in that way, let it be done by a bald-headed dairymaid." Still another paper, after reading all the above, ventured, "We will add that in either case it would be 'dandruff' on the butter."

DAFT CITY FATHERS.—The Daily Camera, of Boulder, Colo., for May 4th, contained this paragraph which is of interest to bee-keepers:

"Our neighbor, Longmont, is beginning to feel quite metropolitan. She has passed an ordinance to keep cows off the main street and now tackles the bee-question. Hereafter no person shall be allowed to keep more than 4 colonies of bees in the corporate limits. This ordinance has caused a humming and buzzing beside which the noise of the bees was as nothing. The matrons and farmers of the town are up in arms, and really it does look as if the town council is putting on unwonted airs. Why banish the busy bee and the luscious honey?"

It must be that Longmont rulers think their bee-keepers are enjoying a bonanza, and that they must do what they can to keep them down, or drive them out. Instead of trying to encourage an honest and honorable industry there seem to be people who would prefer to destroy it entirely. But we can hardly believe that a majority of the residents of Longmont will permit such an imposition upon their bee-keepers as the one suggested in the foregoing quotation.

MR. MACKENZIE, THE PROPOLIS MAN.—Those who attended the National Convention at Chicago last August will recall the discussion of the question as to the practical use of propolis, or whether it has any commercial value. A man by the name of John MacKenzie, of Troy, N. Y., was present with samples of leather and furniture polish, in which propolis was a prominent ingredient. We believe he offered to pay 50 cents per pound for propolis, saying that he expected to be able to use it in large quantities.

It seems that Mr. A. G. Wilson, of Vernon Co., Wis., sold Mr. MacKenzie a quantity of propolis, but has been unable to secure payment for same. He wrote us during the winter about it, asking us to do what we could to help him get what Mr. MacKenzie owed him for the propolis. We wrote the Troy man, but received no reply. A few weeks ago Mr. Wilson again wrote us, when we again wrote MacKenzie, saying that if we did not hear from him within two weeks we would mention the matter in the American Bee Journal. We are now simply keeping our promise to him.

Mr. Wilson, writing us May 8th, gives the following facts:

FRIEND YORK:—

On or about Nov. 1, 1900, I sold and shipped to John MacKenzie, of Troy, N.Y., 65 pounds of propolis at 25 cents per pound. After waiting a reasonable time for settlement, I wrote and reminded him of the shipment and the amount due me, to which he made no reply. I then drew on him through the bank, and you will see the results (dishonored drafts, etc., are enclosed). I have not heard from him in any way since I shipped the propolis to him. The propolis was sold through a sample sent to him, he agreeing to pay for it as soon as it arrived in Troy. These are the facts in the case. Yours truly,

A. G. WILSON.

We do not know whether there are any other bee-keepers who have been so unfortunate as to have shipped any propolis to MacKenzie. We trust not. We were hoping that Mr. MacKenzie was all right, and that he really had found a good use for propolis, as we were aware that certain bee-keepers would be able to supply it in fair quantities.

If our memory serves us rightly, Mr. Frank Benton also met Mr. MacKenzie, and told him he had about 40 pounds of propolis saved up, which he would ship to him. We think Mr. MacKenzie asked him to ship it C. O. D. We have since wondered whether Mr. Benton sent his stock of propolis to him; and if so, whether he received anything in return for it.

MR. J. C. ARMSTRONG, of Marshall Co., Iowa, when renewing his subscription recently, had this to say about some so-called bee-keepers:

"I have delayed renewing some time, thinking to get a couple of subscribers to whom I sold bees, but they are not ready. They want to wait until they get their money's worth out of the bees. Last spring I sold a colony to a man and asked him to take the American Bee Journal and a book on bee-management, but he said, 'No, I will wait till I see what luck I have.' I told him if he had good luck he didn't need a book, but the way to have luck was to read up. I saw him occasionally through the summer and he was having good luck. He had gotten two swarms! I have not heard from him this spring, but I suppose he will sing a different song now—no luck. That is the way with them. They will commence at the wrong end of the business. If a farmer were to go to work on his farm with no more knowledge of the business than they have of bee-management, and trust to luck, we would think him foolish. Yet *they* are wise!"

A "MEASLEY" EDITOR is Mr. H. E. Hill, of the American Bee-Keeper, if we may take the following paragraph in his May number to refer to himself instead of to a youthful member of his family:

"It is our rare privilege this month to have a case of measles against which to charge any editorial short-comings."

That reminds us of the exceedingly "measley" time we had when the measles struck us. We were 21 years of age, and as is well known when this disease takes hold of an adult, he is liable to have a hard time of it. We were attending college at the time, so away from home and mother. We will never forget those days, and how when mother arrived the sick boy began to mend almost at once. Ah, can any one ever forget a mother's love and tender care? God bless all the dear, self-sacrificing mothers—yes, and all the boys who are away from home and mother.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., MAY 23, 1901. No. 21.

Editorial.

City Ordinances Against Bee-Keeping.—We have received newspaper clippings from the Rochester, N. Y., daily papers, announcing that an ordinance relating to the keeping of bees within the city limits was passed there by the common council April 8th, to go into effect May 2d. It provides that no bees can be kept within the city limits without the written permission of lot-owners within 100 feet of the hives; such written permission to be filed in the office of the city clerk.

The passage of the ordinance grew out of complaints made by several residents of the 10th Ward to its alderman, against W. R. Taunton, a bee-keeper. We understand that Mr. Taunton is prepared to test the legality of the ordinance, and is backed by the National Bee-Keepers' Association, and also the New York State Association. Personally, we are in favor of having the matter pushed to the fullest test, as we are very confident that no such ordinance is legal anywhere. Of course, there may be certain instances where the keeping of many colonies of bees is not advisable on account of the locality being closely built up with occupied houses, and yet, even in such a place, if the bees were kept on the roof there would likely be no danger whatever. This is the case in several places in Chicago, and so far as we can learn there has been no complaint from the neighbors. Whenever there is trouble it usually grows out of some spite or jealousy on the part of those living near the bee-keeper, and very likely from troubles arising from other sources than the bees.

We understand that in several other cities in this country there are municipal ordinances prohibiting the keeping of bees within the city limits. We do not know whether their legality has yet been tested, or whether the bee-keeper has simply moved outside. We certainly would not encourage the keeping of bees in thickly settled portions of any city, even though no harm would come from it to any one. But there are many portions of every city that are so sparsely settled that there is no reason at all why bees could not be kept, if so desired. Bees in such places are not only a source of pleasure, but often yield profit to their owners. It would hardly be advisable to make a business of bee-keeping in some cities, but in a large one like Chicago, where there are hundreds of acres of vacant property within the limits of the city, it appears to work all right. In some portions of Chicago there are almost whole farms that will not be divided into city lots and built upon for many years to come. There is no reason why hundreds of colonies of bees should not be kept in such places, especially when there is such an abundance of bloom that is going to waste for the want of bees to gather the nectar.

In view of the many demands upon the National Bee-Keepers' Association for funds to be used in the defense of cases which are constantly coming up for settlement, it behooves every bee-keeper to send in his dollar and become a member. No one knows when he may have trouble of his own, in the settlement of which he will be glad to call upon the Association. We wish that all readers of the American Bee Journal were members of the National Bee-Keepers' Association. Even if any of them should never need its aid, they have the satisfaction of contributing to what has often proved a "Gibraltar of Defense" in the pursuit of bee-keeping. It should never lack for funds to carry on its righteous wars.

Breeding for Good Stock.—The Luxemburg Bztg. gives some of the principles that are held by Swiss bee-keepers:

Parents transmit their good qualities with more or less certainty to their posterity. The longer a trait of character is continued from generation to generation, the more certainly it is transmitted. The more alike the parents are in their traits without being nearly related, the more surely are those traits transmitted. Every country has its own conditions, which, in the course of time, affect the character of its animals, so that the natives are the best for that country.

As to the last item, it might be said there is no native race of bees in this country, and the fact that the black bee was first imported into this country by no means settles the question of its superiority, for this country.

Slow Cooling of Wax.—The American Bee-Keeper quotes the Progressive Bee-Keeper as saying "the color will not settle." Probably both will admit that the dirt settles, and when the dirt settles the color of the dirt settles with the dirt, and the color of the dirt, as well as the dirt itself, is part and parcel of a cake of wax in which the dirt has not settled.

Unpainted Hives are discussed by G. M. Doolittle in the American Bee-Keeper. He figures as to the matter of economy. He has hives and covers 20 years old that are still good. If he had kept them painted it would have cost him $1.15 for the 20 years for each hive, while 48 cents will get that part of the hive new. It is only single-walled hives that he believes should be left unpainted, the advantage being that in unpainted hives the dampness has a chance to dry out. To the objection of Arthur C. Miller that the inside coating of bee-glue prevents evaporation, he replies that "with the freezing of winter and the moisture coming in contact with it, the bright, shiny surface of this varnish becomes dull and full of very fine cracks and holes so that moisture and air pass through it."

Honey as a Remedy.—We desire to call particular attention to the article by Dr. Jas. McLean, on another page of this issue. It will repay a careful re-reading and heeding. Bee-keepers and their families ought to be the healthiest people on earth. Undoubtedly they would be very much healthier than they are if they really knew how best to utilize one of their most common home productions—honey. The reading of a few articles like Dr. McLean's would be a great help to all. It should have a wide reading.

Artificial Ripening of Extracted Honey.—W. S. Hart, in the American Bee-Keeper, says he gets more honey and a more uniformly high-grade article by extracting it when one-third capped, and ripening it artificially. He built a room adjoining his honey-house, covered it with glass, and put in an evaporator of tin, in which the honey runs slowly from side to side in a thin stream four inches wide a distance of about 110 feet, under the full heat of the Florida summer sun. By drawing off from the bottom of the tank he gets only the heaviest, while the thin honey at the top of the tank is constantly evaporating.

Pictures of Apiaries Wanted.—All have doubtless noticed that during the past year or two, since using a better quality of paper, we have been endeavoring to present to our readers half-tone pictures of apiaries in different parts of the country. Of course, we are after the nicest and best ones, and it may be that there are quite a large number that have not yet been shown, that are far superior to any that have appeared on these pages. At any rate, we would like to receive good, clear photographs of modern, up-to-date bee-yards for the use mentioned. Should any pictures be received that for any reason we could not use, we will return them, if requested to do so.

It may be those who have not already had photographs taken of their apiaries will be led to do so the coming summer, by reason of the above suggestion.

Contributed Articles.

Medicinal and Nourishing Properties of Honey.

BY DR. JAS. M'LEAN.

A PERUSAL of Prof. Cook's able review of Thomas W. Cowan's book, The Honey-Bee, which appeared in the Bee Journal for Dec. 20, 1900, suggested the following points on the medicinal properties of honey, etc:

The physiological effects of honey are singular, though mild and passive in their character. Honey occupies a broad line between alimentation and therapeutics, being both food and medicine; therefore it belongs to that class of medicinal remedies that cure indirectly—that is, by putting the vital forces in such a condition as to enable them to overcome diseased action. Mineral water, cod-liver oil, malt, etc., all belong to this class of remedies.

Before speaking of the curative properties of honey we will note its physical properties.

In the first place, where does honey come from? Some assert that it is a secretion of the bees, others that it is a natural product in plants. If it is a natural vegetable product the laboratory would have furnished us long ago with genuine honey. It must be remembered that the sugar and glucose that bees resort to in flowers and fruits, is never honey until it has passed through the stomach of the bees; and please do not call this organ a "bladder," as some do, for it is virtually a stomach and performs the functions of that organ. The bee gathers into it a saccharine material. After its reception a gastric element is mixed with it for two purposes—one to give it the character of honey, and the other to make it assimilative for the formation of an oil, that is perfect wax.

It is generally supposed that after a bee returns to its hive with its treasure it hurriedly dumps it into a cell and goes out for another, but this is not the case. When the bee returns, because of fatigue and under the stupefying influence of digestion, it has to abide for a time, both to recuperate and to get rid of its burden of honey and wax. We have reason to believe that even after the honey is deposited in the cells it has yet to receive the finishing touch of perfection, which in all probability is given by the younger bees of the colony. They live on the honey imported, and this rich, concentrated food demands an excess of gastric secretion; when coming to a certain point it creates a regurgitation something akin to vomiting. This the young bee economically puts back into the cells, thus completing the process of honey-making.

Another point as to the character of the bee's stomach. As soon as it is unloaded an insatiable sense of hunger and restlessness ensues, which at once forces the old bee to work abroad and the young one at home. We all know how to respect the buzz of the hungry bee, and admire the sweet disposition of the one that has just finished a sumptuous repast. Ah, how rare are family jars when the pantry is ever full! It is Nature's law, all the same.

We go more especially into these details to point out the medical properties of honey. It has two physical elements that make it particularly a medicine, namely: First, an aromatic irritant imparted to it by the stomach of the bee. Second, its ready transformation into fat without those complicated physiological operations necessary to transfer other saccharine elements into this material. These make it at once both a local and a constitutional remedy. Locally it is an irritant, sedative, emollient, detergent, antiseptic, resolvent, rubefacient, and a parasiticide. Constitutionally it is nutrient, demulcent, laxative, deobstruent, alterative, restorative, tonic, expectorant, febrifuge, and antaphrodisiac, as well as containing poisonous properties manifested under peculiar circumstances.

When we say that honey is both an irritant and a sedative we mean that its first effects may irritate, and be followed with a sedative effect. All liniments work beneficially on this principle; the same with the most of eye-waters, etc. The solution of honey as an eye-water proves particularly beneficial on account of its antiseptic, absorbent, or resolvent properties. It cures inflammation of the eyes in the way a solution of boracic acid does, that is, mainly by reason of its antiseptic and sedative properties.

The irritant properties of honey are, in a great measure, destroyed by dilution. Therefore, as a topical irritant where we wish to favor resolution by counteraction it is used in a pure state, or in conjunction with more active irritants. It is its irritant or rubefacient effect, joined with its emollient nature, that precipitates local inflammation into suppuration, and is, therefore, a suitable remedy for abscesses, boils, whitlows, carbuncles, etc. Therefore, woe to one who applies a honey plaster over an inflamed eye in place of the solution. As a rubefacient and absorbent it makes an excellent local application in glandular swelling, and chronic tumefaction, particularly when joined with iodine, iodoform, or mercury.

On account of the temperature of the body it is difficult to keep pure, undiluted honey on the surface. This can be remedied to a certain extent, by saturating layers of canton flannel, and applying them, changing frequently.

I speak of it as a parasiticide not only in connection with the theory of the pathogenesis of diseases as advocated by Pasteur, Cohn, Koch, Klebs, and others, who have investigated the bacteria, but even those who created several skin diseases, well known to almost every one. Take honey for the destruction of the bacteria, because of its antiseptic, tonic and laxative effects. Its daily use would disarm every dire and malignant disease of its destructive force. Cholera, yellow fever, smallpox, scarlatina, and diphtheria, may run their course as before, but comparatively in such a mild form as to afford but little, if any, anxiety. I speak of honey only as a preventive of malignancy in these diseases, and not as a curative agent.

The constitutional effects of honey can not be fully understood and appreciated, except it be studied from its medical properties, as represented above. All scientific investigation of remedies are made in like manner. It is the text to a long and complicated sermon. Every physician will read in it such a multiplicity of applications as would astonish the uninitiated.

As a nutrient I will not speak of it as a food, but in connection with its properties which serve to arrest certain diseases, particularly consumption. The important features of the medical properties of honey lie in the nutrient, expectorant, deobstruent, and restorative effects in the management of consumption, and its allied diseases.

Now, let us go back to a fact that exists in the process of making honey. No honey could be had if it were not for its ready metamorphosis into oil, or, in other words, in the making of wax, as stated. The great object in the treatment of consumption is to arrest waste. Therefore we resort to the use of oils, or remedies that will readily make fat in the system. But the great difficulty in the way is to get the system to accept these remedies and effect their assimilation. Under Liebig's authority we give sugar freely to make fat, but the system often refuses it. This alone gives us a great advantage in giving honey to stay the waste caused by disease, *that we have in no other remedy.*

In being assimilated honey is disposed of in three ways. What is not deposited in the cellular tissue as fat is consumed by the liver, and its volatile principle is eliminated by the lungs. This elimination is a matter of the greatest importance as a remedy in all pulmonary disorders. But the most remarkable feature of honey as a sedative is in administration by atomization and inhalation. The spray arising in extracting has been proven to exert a very beneficial effect upon cough and dyspnœa, thus revealing its curative tendency.

The most effective and enjoyable way to benefit from the general use of pure honey is to have in every home a ready supply, diluted with, say one pound to a quart of water, placed in a suitable glass or porcelain vessel—metal must not be used—from which about one tablespoonful put into a cupful of warm or cold water and taken at each meal, would benefit one a thousandfold more than the stupidly conventional decoctions with which we daily clog and seriously disarrange our physical and mental machinery. Let any one who suffers from kidney and bladder trouble try this simple and pleasant substitute for one week, and then faithfully report the wonderful results. Blind, indeed, must mankind be to reject one of Nature's very best disease-preventing remedies, in order to temporarily relieve their perverted appetites!

O, that we would learn seriously to feel and honestly to say, with the Psalmist of old: "How manifold are Thy works Lord, God, Almighty, in wisdom Thou hast made them all"—including the divinely inspired honey-manufacturing bee.

Let me conclude by suggesting a trial of one tablespoonful of *pure* honey, dissolved in about half a glass of cold water, and one teaspoonful of tincture of myrrh, for the cure of indigestion. San Francisco Co., Calif.

Foul Brood, Fatal Bee-Stings, Etc.

BY PROF. A. J. COOK.

MR. FLORY, of Stanislaus Co., Calif., sends me a sample of foul brood which is not at all typical. He says black or pickled brood is common, but this seemed more formidable. This has not just the same odor as the usual foul brood, and as it is pulled out of the cell, it does not fly back with quite the spring of the ordinary foul brood. Yet it appears so much like the genuine that I believe it is the same with these differences. It is foul brood but not the typical.

We now have a good foul-brood inspector in this county. He is proceeding in just the right way to eradicate this evil, which is not very uncommon in our apiaries, though I doubt if it is so fatal as in the East. Some urge him to burn all. I think he is wiser in treating the disease. In case only one or two hives show the malady, he burns all. If only diseased cells are found in one or two combs, and a few at that, he burns these combs, watches the colonies closely and hopes for no more trouble. In case many colonies are affected he uses the McEvoy method—shakes onto starters, and in four days onto full sheets of foundation. He is very cautious that none of the honey in the old hive, or that stored in the starters, is eaten by bees. He further does a good work by carefully teaching all interested the nature of the disease, the modes of distribution, the necessary caution in working with the bees, that none of the honey shall be taken by *any bees*.

It is wisest, of course, to work only when the bees are at work, and some are so careful as to work only at the evening time. It is safest to work under a tent. Wise caution alone will prevent scattering the honey and the disease. Let all remember that they can not be too careful.

FATAL RESULTS FROM BEE-STINGS.

A few days ago, two horses were stung to death by bees in Yolo county, near Sacramento, Calif. The driver was also seriously stung, but not fatally. He was driving a four-horse team, and ran onto a hive of bees. The results were as given above. This suggests that in such cases the horses may be taken to a barn, if possible, as the bees will not generally follow into an enclosure. Covering the horses with blankets wet in cold water will stop the stinging and subdue the fever, and will often prove the readiest means to prevent fatal results.

In case a person is severely stung, washing in strong soda-water and covering with cloths kept wet in cold water will do most to allay fever and afford relief.

FAMILY SCROPHULARIACEÆ.

This is a very interesting family of plants. The figwort—a very valuable honey-plant—is one of the inconspicuous examples of these numerous flowers. Like the mints, or flowers of the Labiate family, these flowers are bilabiate. That is, the flower has two lips. One of these has two and the other three lobes.

We have here three very common species of the genus Mimulus. They are like the snap-dragons of the East. They are known here as the "monkey flowers." Both the above names are suggested by the peculiar form of the flowers. The curious thing about these flowers, as is true of all such irregular flowers, is the form in its relation to pollination. The flowers are called ringent, as they have an open throat. The stamens are in two pairs, one pair being longer than the other. These are close up to the upper lip of the flower, as is also the style and stigma. The stamens do not shed their pollen at the same time that the stigma of the same flower is ripe for the pollen. Thus the flower can not be pollinated by its own pollen.

Once I saw all the bees going into the hives, curiously striped along the backs with white. They looked like Hereford cattle. I sought the cause and found the stripe was made by white pollen-grains. I sought its source and found it in the yellow-spotted snap-dragons. This was in Michigan. I find our monkey flowers here also have the white pollen, and are quite attractive to sweet-loving insects.

In all of these species of Mimulus the lower lip of the flower, where the bee alights, and which must sustain the insect as it pushes in to reach the nectar, is strengthened by two prominent ridges, which, from both their form and position, must tend marvelously to give strength to the thin petals, or lower part of the flower-tube. If Nature does abhor close pollination, as some one has said, then surely these interesting plants are well fashioned to prevent it.

Los Angeles Co., Calif.

Prevention of Increase—Other Matters.

BY G. M. DOOLITTLE.

IN a letter from a correspondent I find the following: "What is the best way to keep down increase? The colonies which I now have furnish all the honey my home trade demands, so that I do not want to increase my number of colonies further than I now have. Please answer through the columns of the American Bee Journal."

The surest way is to give plenty of comb-room, and then extract closely till the swarming season is over. Probably not one colony in 50 will offer to cast a swarm treated in this way. In fact, very few colonies will offer to swarm where tiered up for extracted honey, and the extracting not done till the end of the season, providing that empty comb-room is given as fast as needed. But when working for comb honey the case is different, and the bees are almost sure to swarm, no matter how much section-room is given, or whether these sections are filled with foundation or not.

I know of some apiarists who keep their apiaries at the original number of colonies, while working for comb honey, by uniting the colonies about three or four weeks before the honey harvest, making one colony out of two, they preparing for this in advance by keeping each colony shut on only half the combs contained in the hives they use, making the stronger help the weaker till all have the half of their hives just solid with brood, and then let them divide by natural swarming to the original number, keeping down all after-swarming. Or you can let them swarm without uniting before the honey harvest, and, after the honey season is over, unite back to the original number. This accomplishes the same object as the former, only the colonies are not as strong in numbers for storing, and it gives more mouths to feed after the honey harvest is over, with, as a rule, less results in section honey.

Swarming is the bane in comb-honey production, and Dr. C. C. Miller and myself are waiting, and living in hopes, that some bright bee-keeper will yet invent something, or evolve some plan, which will entirely do away with the swarming desire in bees, so that they will work all the "livelong day," and all the days of the season, with the vim manifested by a new swarm, with no such a thought as swarming ever entering their heads. What fun there would be, then, in having a number of out-apiaries, and all piling up the comb honey—yes, and home apiaries, also.

DRONES FROM VIRGIN QUEENS.

Another correspondent writes thus: "Please tell us through the columns of the American Bee Journal whether virgin queens ever lay any but drone-eggs? And are the drones from these queens capable of fertilizing other queens?"

To the first question I think it would be perfectly safe to answer no, although one or two cases have been reported looking a little as if a virgin queen might have produced a few eggs which matured into workers; but I think this can not be other than a mistake.

The second question is one which has not been settled satisfactorily to all minds. Some claim that such drones are just as good as any, arguing from a scientific standpoint that it must necessarily be that, as the drone is the "son of his mother," he could not be otherwise than as perfect from a virgin queen as from the same queen after becoming fertile. On the other hand, some of our most practical bee-keepers claim that such drones are not capable of fertilizing queens, and give instances where plenty of such drones were flying but no queens would get to laying till drones from mated queens began to fly, when they would become fertile and make good mothers.

I have had very little personal experience going to prove the correctness of either, but have always supposed drones from a virgin queen, when reared in drone-comb, were as good as any. Such drones, when reared in worker-comb, may be virile, and, even were they not so, I would not expect any queen to prove first-class which had mated with a drone reared in a worker-cell.

Who can tell us more along this line? A practical article by some one having experience in these matters would be read with interest by thousands of apiarists.

"OUTGO MUST ALWAYS BE LESS THAN INCOME."

This is what Prof. Cook tells us is necessary if happiness is to result. (See page 248.) And I agree with him exactly as applied to successful business, or to "successful" health. But when he intimates that the "balance of trade" between this and other countries is "very cheering," because our exports exceed our imports, I can not harmonize his logic; for this, to our nation, is like Macawber's "Annual income,

20 pounds; annual expenditure 20 pounds-six," which can only result in "misery" to the United States. And I can not, for the life of me, see why Prof. Cook and others can see aught but misery to a nation in that which would be misery to an individual.

The papers tell us that during the last four years this country has sent out $2,150,000,000 more wealth than it has brought in—in other words, it has got rid of that much wealth for which it has received no equivalent. The monopolists (and if I read Prof. Cook aright, he also), calls that trade "in our favor," but just how I have trade in my favor when I give another more than I receive back, is not clear to my muddled brain. Will Prof. Cook explain the matter to us? Don't any one say this has nothing to do with *bee-keeping*, for it has very much to do with it, and with the happiness of the bee-keeper and family.

Public documents, covering the subject, show that there has been over $4,000,000,000 more gold and silver and merchandise sent out of this country in the last forty years than came back. What did this country get for it? They were not paid in gold, for more gold went out than came back. They were not paid in silver, for more silver went out than came back. And Prof. Cook tells us, "This is all very cheering." Well, it may be to him, but it is very depressing to me; for in it I can see only the "sickness" and eventual ruin to the bee-keepers of the United States.

Onondaga Co., N. Y.

Experiences With Swarming, Hive-Making, Etc.

BY J. B. ALEXANDER.

I HAVE been keeping bees for three years. My text book is "A B C of Bee-Culture." I take two bee-papers, the American Bee Journal being one of them. I like them very much, because I think they are published by good men—men that try to do the right thing.

Last spring I had a colony of bees to swarm; I caught and caged the queen, and let the bees return, as I did not want the increase. In 15 or 20 minutes I lookt through the brood-chamber to cut out the queen-cells, and the first cell I found the queen had just hatched—I saw her on the frame that contained the vacant queen-cells. I cut all the queen-cells out that had not hatched, being very careful not to leave one. I let the newly hatched queen stay in the hive. I noticed there were eggs in the combs at the time. In six days from the prime swarm they swarmed out again, clustering for half an hour, then returned to the hive. I looked the frames all over again, shaking the bees all off of the combs to see if I had left another queen-cell. I found nothing but the cell that had first hatched, and one unsealed queen-cell with a larva in it. I cut this out and they did not try to swarm any more.

My next experience with the peculiarities of bees was in dequeening a colony of five-banded bees (these being the only five-banded bees in this portion of country). I noticed in the course of half an hour a great quantity of dead bees in front of the hive. I watched them for quite a while to see if robbing was the trouble; there was no robbing at all, for the bees all had the same number of bands, so I was sure they were having war among themselves. I opened the hive, and to my great astonishment it appeared to me that every bee in the hive was in a state of war with one of its mates. I swept the dead bees from the bottom-board, which I am satisfied would have filled a quart measure. I closed the hive quickly, and smoked them with tobacco-smoke at the entrance. In five minutes they were perfectly peaceable.

Now some one will say that it was caused by robbing, but everything went to prove that there was no robbing going on.

I make my hives 16 inches long inside measure, and 12⅝ wide inside. I cut the frame-rabbets ¾ of an inch deep and ¾ inch wide, and cut a piece of tin 12⅝x2 inches, and double it so it is 1 inch wide. I then file nine notches in the round edge (caused by doubling) of this piece of tin. Commencing 13-16 of an inch from one end, I file the notches 1⅜ inches apart. I then nail the tin in the hive so that the edge that is notched will come within ⅛ inch of the top edge of the hive. I prefer the top-bars and end-bars just 1 inch wide instead of 1⅛ inches. Instead of letting the top-bars extend over to hang on the rabbets, I drive a 4-penny nail in the center of each end of the top-bars; as my top-bars are only ½ inch deep, driving the nail in the center of the end of the top bar makes just a ¼ inch space over the frames. The notch in the tin should be 1-16 inch deep, letting the nails rest in the spacing notches, thus giving correct spacing. I let the nail extend ¾ inch to hang the frame, and to hold to while manipulating the frames. I do not suppose this style of hive and frame would suit every one, but if any reader has much propolis to contend with I would be glad if he would try my style of hanging frames.

I send a photograph of my family, and a part of my apiary, taken in February, 1900. Pulaski Co., Ark.

"Long-Tongued Bees—Fad or Fallacy, Which?"

BY DR. C. C. MILLER.

THERE is danger that too much may be expected from length of tongues in bees, and it is well that attention be called to this. Mr. Doolittle, on page 293, is right in saying, "There are times when it is necessary that 'a halt should be called' by some one," but when he adds, "and as no one has seen fit to do this, I have felt it my duty to do so," he is hardly going by the book. In Gleanings in Bee-Culture for April 1st, page 296, Editor Root says:

"It is only proper to sound a note of warning that the general bee-keeping public must not be disappointed if they get some untested queens that do not come up to their expectations.....Again, we are not positively sure that the amount of honey a colony will gather is in direct proportion to the length of the tongues of its bees."

And in the following number this Stray Straw appeared:

"You are wise, Mr. Editor, to sound a note of warning against losing our heads and depending entirely upon long tongues. A tall man can reach more apples on a tree than a short one; but two men of equal height may not be equally industrious at gathering apples. —[Yes, and from present indications it may be necessary to continue the note of warning. While I believe in long tongues, and expect great results, yet it is evident that a good many are bound to be disappointed. The fact can not be too strongly emphasized, that daughters from the very best of mothers may prove to be very inferior; and I am afraid that 50 percent of them may be only medium, or no better than other queens in the yard.—Ed.]"

So there were at least two men previously engaged in calling a halt.

Mr. Doolittle is vehement against claiming superiority for long tongues without in the same breath constantly saying that there can be no superiority apart from red clover. It would hardly seem necessary constantly to mention that, but over against all the quotations from Gleanings which he gives to show that it is held "that long-tongued bees are just the thing he should have if he would succeed, no matter about red clover, or in what portion of the country he resides;" which he seems to think warrant him in accusing Gleanings of misleading or false statements. Over against all this stands out clear and emphatic the utterance of Mr. Root, quoted by Mr. Doolittle, that no one claims that long-tongues have any value except for the sake of the red clover crop. If claims for long tongues have been made by men in the South who have no red clover, that conflict with the utterance of Mr. Root, a man who has sat in the editorial chair as long as Mr. Doolittle ought to understand that it is not an easy thing to edit out all discrepancies. But suppose a man who never saw a red clover blossom should find that long tongues and good working qualities go together, why should he not be allowed to say so without having the accusation of falsity brought against the journal publishing his statement?

I do not believe that Gleanings has knowingly published anything but what it believed the truth in the matter, and the innuendos of Mr. Doolittle are not in keeping with his usual charitable spirit. Surely Gleanings can hardly be accused of misleading in the face of the distinct utterance by its editor that the red clover crop was the only thing to be gained by longer tongues.

A few words as to the real merits of long tongues. I believe, and have said, that the right thing to do is for every bee-keeper in the land to engage in a united effort to continue only the progeny of such colonies as show a good record in harvest, trusting to records rather than to measurements, yet I do not believe the measurements are without value. It seems a pretty clear case that with long enough tongues there ought to be no difficulty about getting the red clover. If I could get all the red clover honey now going to waste within the reach of my bees, it seems to me I should hardly consider it either a fad or a fallacy. The fact that the midge destroy's Mr. Doolittle's chances does not make red clover honey any less desirable to me. We

are not all "midged." Thousands upon thousands of bee-keepers are located where red clover is all right except the depth of the flower-tubes.

Without knowing anything definitely about it, I am of the opinion that $100 would be a low estimate of the gain it would be to me annually if I could have all the red clover honey within easy reach of my bees. At any rate, I would be willing to give $25 or even $100, for a queen accompanied by a guarantee that I should have all of said red clover honey; and I do not believe that E. R. Root is such a scoundrel that he would stretch the tongues in measuring so as to palm off on me a $10 queen for a $25 one.

Although Mr. Doolittle may have no red clover, he might be willing I should have some benefit, and thousands of others.

McHenry Co., Ill.

Small Neglects Affecting Apiarian Profits.

Read at the last Convention of the Ontario Bee-Keepers' Association,

BY W. Z. HUTCHINSON.

"For want of a nail the shoe was lost;
For want of a shoe the horse was lost;
For want of a horse the rider was lost;
Being overtaken by the enemy and slain;
And all for want of a horseshoe nail."

HOW well this old ditty illustrates the losses that occur in the apiary from little neglects. For want of a pound of feed in the spring the colony may be lost; and for want of the colony the harvest is lost, as there are no bees to gather it. For want of care in disposing of the cage and accompanying bees when a queen is bought, foul brood may be introduced into the apiary, and the end thereof no one knows.

Most emphatically is bee-keeping a business of details. Of course, there are certain broad principles that must be observed before success can even be hoped for. The apiary must be located where there are honey-producing plants, and there must be bees in sufficient quantity to gather the nectar. The bee-keeper must understand his locality, know when to expect the harvest, and have everything in readiness for it. If in a Northern climate, the bees must be protected in the winter, either by some kind of packing or by putting them into the cellar. If comb honey is to be produced, some system must be adopted that will keep the working force together instead of having it divided up into two or three colonies. But after a man has mastered all of the basic principles of bee-keeping—yes, after he has become conversant with the details—he may lose a large share of his profits simply from out-and-out neglect.

The bees are in the cellar. He does not go near them. He does not know what the temperature is. It may be too low; and, if so, it might be possible to add to the protection afforded by the walls. Boards might be set up around the walls, held in place by strips of wood tacked to the sides of the house, and the space filled in with sawdust. This little care alone might, in some instances, secure the safe wintering of bees that would otherwise perish or come through the winter in poor condition. If the bees are in the cellar under the home of the bee-keeper he might employ artificial heat at those times when it is needed. A large oil-stove having a hood over it, connected by means of a pipe with the stovepipe in the room above, will answer every purpose. A cellar may become infested with rats or mice that will gnaw combs, and do much damage if not gotten rid of. Equal parts of flour, sugar and arsenic placed in dishes in the cellar, will make quick work with the rodents. Mice will play sad havoc with colonies left out of doors if the entrances are neglected. The bee-keeper should *know* how his bees are wintering. He should not neglect them. A perfect wintering of the apiary lays the foundation for a successful season.

After the bees are placed upon the summer-stands don't neglect them. As soon as the conditions are favorable, look them over. Here and there will be a queenless colony. Here and there will be a weak one. United, such colonies may prove as good as there are in the apiary. Neglected, they will be of little value the queenless ones will certainly perish, perhaps become a prey to robbers, thus stirring up bad blood in the apiary at the time of the year when all should be peace and happiness. Some colonies will be found with a great abundance of stores, others on the verge of starvation. Neglect here means the loss of all colonies that are short of stores.

As the harvest comes on, don't neglect to have the hives, sections, frames, etc., all in readiness. Some of you may be ready to shout, "Chestnuts!" Well, if only those shout who have never been caught, I think none of us will need to cover up our ears. Nothing will more quickly change the mood, and disposition, and intention of a colony, cause it to turn its energies into a different channel, than the neglect to furnish it surplus room when it is needed. The disposition to store honey is laid aside for that of swarming. A colony with the swarming fever will do little work until that fever is abated. If a colony first turns its energies in the direction of storing up surplus, it will often continue on in this way the entire season with no thoughts of swarming. And, speaking of swarming, reminds me that the neglect to clip off just one little eighth of an inch from her majesty's wing sometimes results in the bee-keeper striking a dejected attitude, as he gazes sorrowfully over the tree tops where he sees disappearing, as little specks in the sky, the last, few straggling members of the rear guard of a prime swarm that would have stored 50, perhaps 75, pounds of honey for its owner had he not neglected to clip off that little one-eighth of an inch.

When it comes to the extracting of honey there is one point that I wish to mention, although it may be more a mistake than a case of neglect; it is that of extracting the honey before it is ripe. Of course, it is possible to evaporate artificially thin honey, but with this evaporation goes a portion of the fine aroma.' Not only this, but the evaporation of honey does not *ripen* it. The bees in their handling of the nectar invert or change the cane-sugar to grape-sugar. They change the raw nectar into ripened honey. If we take it away from them before this change is completed, it lacks that much of perfect ripeness. It lacks the "tang" that tickles our palates. Thin, unripe, watery honey ferments, and sours, and bursts tin cans and barrels, and disgusts and disappoints every one who has anything to do with it. Nothing has done more to destroy the market for honey than the placing upon it of unripe honey.

Little neglects in preparing the honey for market are very expensive. The neglect to scrape the propolis from the sections, the neglect to use non-drip cases, the neglect to put the cases into a larger case or crate when small shipments are made, may mean the loss of two or three cents a pound. Sections daubed with propolis, honey dripping from one case and daubing the one below it, coal dust and cinders rubbed upon the daubed cases, greatly lower the price and retard sales. Before the days of no-drip cases and outside crates I went so for as to wrap a paper around each case before shipment, that the cases might be clean when they reached their destination.

Men who make exhibits at fairs often lose premiums that they might have captured had they not neglected to label their packages tastefully. It is a little thing, but it adds the finishing touch.

Then there are little things, like, "Where do you keep your smoker and fuel?" The neglect to provide a proper place for them may mean a costly fire. I once kept my smoker and fuel in an old wash-boiler. Once upon a time when I removed the cover, the flames burst out. Suppose the boiler had been a wooden box kept in a building, and the fire had not been discovered while still confined to the box? I now keep my smoker and fuel in a large box, with a hinged cover, out in the yard.

The matter of saving wax ought not to be neglected. It is a good deal like saving paper rags—just about as easy to save the odds and ends as to throw them away. A solar wax-extractor is a nice thing for this purpose. Keep it standing in the yard, and when there is a bit of waste comb toss it into the extractor. One year when I did a large job of transferring I threw all of the odds and ends into a barrel, and pounded them down hard with the end of a large stick. Then the matter of rendering was *neglected* until that barrel two-thirds full of pounded-down comb was one mass of webs and wriggling worms.

But why multiply examples? We all know that the profits of an apiary can be entirely wasted or destroyed by little neglects. What is the cause of this neglect? In some cases it is simply a combination of indolence, procrastination, and a sort of belief that things will come out all right of themselves. Then there is the neglect that comes from having too many irons in the fire. If you have so much business that you can only half attend to it, that something must be neglected, two courses are open: hire some one to help you, or else dispose of part of your business. There is more pleasure and more profit in a small business well managed than in a large business that must be neglected. Some men are so constituted that they can not employ help to advantage. They have done all of their

work so long that they feel no one else can do it properly. It would put them all in fidgets to see some one else cleaning their sections, or uncapping combs for the extractor. Other men have learned that it is much more profitable for them to oversee and plan the work, leaving the carrying out of the details to competent help. You know yourself, or ought to, so choose the course to which you are adapted, but don't keep on conducting your business in such a manner that you are compelled to neglect it. Be thorough, up-to-date, progressive, and energetic, but don't lose half your profits as the result of little neglects.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Queen Laying Several Eggs in a Cell.

What is the cause of a queen laying from one to four eggs in a cell? It is a weak colony, with a hive full of honey, and some chilled brood. It is not a laying worker that is doing the laying, but a fine, large queen.

UTAH.

ANSWER.—The colony though small is lively and ambitious, and the queen is probably fed as much as she would be in a much larger colony. The eggs must be laid somewhere, and as the space that is warm enough for egg-laying is too limited there is nothing for her to do but to use the same cells over again. As the colony becomes stronger you will find that she lays only one egg in a cell.

The Nail-Spaced Frame Preferred.

I have had more of the Hoffman frames than I want, and as I have sold all my bees and fixtures, and wish to start this summer, I wish to know first if the Danzenbaker is just as bad to manage for the reason of propolis, and are the general features as good as the nail-spaced Langstroth standard?

ILLINOIS.

ANSWER.—The Danzenbaker frames are closed-end frames in full, and the Hoffmans partly closed, so there is more surface in contact to invite propolis in the former than in the later. After giving a pretty thorough trial to both, and also to some other kinds, I find nothing so satisfactory as the Miller frame already described in these columns. I commenced using them on a somewhat small scale, feeling a little afraid that continued use would develop some objection not suspected in advance, but the more I use them the better I like them, and have perhaps 2,000 of them now in use.

Keeping Down Increase.

1. I have five colonies and do not wish to increase. The swarming-fever struck them about a week ago and has not stopped yet. A neighbor told me how he does but I do not like the plan, viz: Take a soda-cracker box which is about 8x10 inches, and about 8 inches deep, and put the cluster into it, and place a bottom-board over it. Take it to a new stand, invert it, and as an entrance has been previously made we have a new but small hive which my neighbor says will be filled solid.

Yesterday one of these swarms came out of the box three times, clustering on the same post each time. The third time I gave them a new box with two pieces of foundation stuck to the top ¾ inches wide, and they seem to stay all right. The neighbor says early in the spring he gives these cracker-box bees back to the original colony, and has a fine colony to begin the harvest, and then repeats with the same boxes next year. This is my first experience with bees, so I don't like to fall too heavily on my instructor, but it does seem to me that the number of bees which I have put into those small boxes will be terribly crowded. What was the reason of those bees coming out three times? As I am a half-invalid, through eight years of throat affection, it nearly exhausted me, going to and fro.

2. Now, to-day, another swarm came out of the hive that swarmed day before yesterday, at which time we requeened the colony, killing the old queen, of course. The cell containing the new queen just hatched yesterday. How can you account for to-day's swarming with such a new queen? or do you think the new queen never materialized? Would they swarm under those conditions? We cut out all the rest of the queen-cells in that hive.

CALIFORNIA.

ANSWERS.—1. I'm a little inclined to think I'd pay off that instructor and hire a new one. To put a strong swarm into a box containing no more than 640 cubic inches—less than 10 quarts—in these days of expansion is pretty severe contraction. The combs built are not in movable frames, hence not the most desirable. The probability is that the bees were too crowded and warm, and swarmed out on that account. Shading well and raising up the box an inch from the bottom-board would help. If your object is to keep down increase, perhaps this plan might suit you better: When the colony swarms, kill the old queen and return the swarm. If your queen is clipped all you have to do will be to pick her up from the ground and kill her, and the swarm will return of its own accord. A week later cut out all queen-cells but one, and the work is done. There will be no more swarming for that colony till another year.

2. If I understand you, when the colony swarmed you killed the old queen and returned the swarm, killing all the queen-cells and giving them another cell, then two days later the colony swarmed again. It is not easy to say just why they swarmed the last time, but there are several possibilities in the case. One is that a queen may have entered from another hive. Another is that the cell you gave may have been well advanced, the queen having been held in some time by the bees so that two days after you gave the cell she was old enough to make her wedding-flight, and the bees swarmed out with her when she made this flight, which is not a very unusual occurrence.

A Question on Bee-Management.

White honey is produced in this locality early in the spring, and the nights here on the coast are cool so the bees fail to breed up to good working force in time to get the first flow. How will it do to form a nucleus say in June, and in the fall place it on the old colony with an excluder between; then when both are well filled with brood take out the excluder and kill one of the queens in the spring?

FLORIDA.

ANSWER.—I don't know. I doubt if it would work to your satisfaction. The object would be to throw, in the spring, the force of the two queens together. I suspect you might do that better by having the two colonies side by side in the same hive with a thin division-board between them but no communication between the two sides. Then in the spring they could be thrown together. But it would be worth while to try very hard to have colonies so strong in the fall that there would be little need for uniting in the spring. Then the weakest could be united with the medium ones.

Managing Bees in a "Beer-Keg Hive."

I have a very strong colony in a "beer-keg" nearly filled with honey. I propose to add one or two 8-frame hives underneath until the white clover flow begins, then change them to the top of the keg with a queen-excluder between, with the queen below. Will the bees carry the honey upstairs and make room for her to lay? I will let the brood alone until hatched, then put on sections. My idea is to get the honey now in the beer-keg in sections, and let the bees winter in the keg.

INDIANA.

ANSWER.—I'm afraid that thing is so mixed up that the bees will hardly know what is expected of them, especially if there's any of the beer left in the keg to muddle their little brains! Evidently, your idea is that the keg will be so filled with honey by the time of clover that the bees will have worked down so as to fill one if not two stories of combs in frame hives.

That may be so, and it may be that they won't come up to your expectations and will have very little done in the hive under the keg. Suppose, however, it works to your

satisfaction, and your two hives are fairly filled, it will be mostly brood in them. When you put them above the excluder, the queen you will put below in the keg that is now solid with honey (for you may count that it will be filled with honey if the bees have been driven down to occupy the two hives.) At this time the bees will turn all their energies toward storing, and the liklihood is that while the bees will do some emptying to give the queen a chance, the chance will not be a very large one, especially as the queen up to this time has had unlimited room to spread herself and by this time has become somewhat exhausted with laying. The brood will be all the time hatching out above, and by the time your two hives are solid with honey there will not be such a great deal of time left for the bees to work in sections, for they'll not do much in sections so long as room is left in the hive-bodies. I don't quite see what you expect to gain by getting your keg filled with honey only to be emptied again. If you want the bees to winter in the keg, why not leave them their brood-nest there all the time, putting sections on the keg? One good plan would be to leave them in the keg till they swarm, then hive the swarm in a hive and throw the field-force all into the swarm, leaving the keg to strengthen up for the winter.

Transferring Bees on Crisscross Combs.

I bought two colonies of bees and they are in small hives, one is a seven-frame and the other is an eight. The frames had no foundation, and the comb is built in every direction. Is it advisable to transfer them to another hive? If so, when is the best time? and will that prevent them from swarming? ONTARIO.

ANSWER.—If you don't expect to handle the frames at any time, then it is not worth while to transfer, and it will be better to leave the bees as they are. If, however, you want to handle the frames at any time, then by all means they should be transferred. You can turn the hive upside down if the bottom can be taken off; cut down with a long knife or saw so as to loosen entirely the combs from the side of the hive, then when you lift the hive-body off the frames it will be easy to get at the combs.

In fruit-bloom is a good time to transfer, and it need not prevent swarming. Nowadays the tendency is growing toward waiting till the bees swarm, and transferring 21 days after swarming, when there will be no brood in the hive except a little sealed drone-brood.

Curing Pickled Brood.

What can I do to cure pickled brood?

WEST VIRGINIA.

ANSWER.—In an able article in this journal five years ago, Dr. Wm. R. Howard wrote: I have recommended, with successful results, placing the bees on full sheets of foundation, confining them for three days (giving them plenty of water) in order to consume all of the infected material, that none of it might be deposited in the new combs to be covered with new pollen or honey.

Convention Proceedings.

Report of the Chicago Bee-Keepers' Convention.

The Chicago Bee-Keepers' Association held a most successful meeting at the Briggs House, Chicago, April 4, 1901. There were about 35 in attendance, and several new members were secured.

The secretary had had some correspondence with Mr. C. P. Dadant, about being present, and had given up hoping he would come. But about 10 a.m. on April 4th a telegram was received by Pres. George W. York, saying that Mr. Dadant would arrive at the Union depot at 2:30 p.m. Of course this was an agreeable surprise, but if we had known it a week earlier we might have filled the clubroom of the Briggs House at our meeting.

I would like to say right here that those 250 bee-keepers within reach of Chicago, are standing very much in their own light in not attending our semi-annual meetings. We have really good times and exchange many valuable ideas.

Of course Mr. Dadant's presence made a good convention, aside from any other attractions. He told us about Paris and the great Exposition; about the French people; about the little old man who had carried him in his arms when he was a very small child; and of course he was ready to answer any and all questions asked of him by the A B C class of bee-keepers as well as the X Y Z class—and the questions were numerous.

Prof. E. N. Eaton, State Analyist of the Pure Food Commission, was present, and addressed the meeting, and also forced his annual dues on an unwilling treasurer.

At 6 p.m. those present adjourned in a body to the dining-room, and discussed many and savory viands, and had much sociability therewith.

It was voted that the afternoon-and-evening-session idea be a permanent fixture. We hope all those 250 bee-keepers will come to the next meeting in November. Dr. Miller and Mr. C. P. Dadant may both be there.

I am sure all present were sorry when the meeting adjourned at 9:30 p.m. HERMAN F. MOORE, *Sec.*

Report of the Texas Bee-Keepers' Convention.

The Texas State Bee-Keepers' Association held its 23d annual session at Greenville, April 3 and 4, 1900. President W. R. Graham being sick, was not able to preside, and vice-president A. M. Tuttle being absent the meeting was called to order by the secretary, J. N. Hunter, who acted as chairman. He made a few preliminary remarks, reviewing the history of the Association from its organization to the present time. Prayer was offered by the Rev. W. R. Lowery.

Messrs. Hagood, Osborn and Scott were appointed a committee on program for discussion.

About 40 bee-keepers were present during the two days' session, representing some 2000 colonies of bees, the average yield of which last season was about 36 pounds to the colony.

Secretary Hunter explained his method of transferring bees. He prefers the hybrid bees and uses full sheets of comb foundation.

J. M. Hagood thinks the Holy-Land bees are the best for Texas, and that they are more immune from disease.

W. A. Evans has 185 colonies of Italian bees, and secured 50 pounds of comb honey per colony last year.

J. R. Scott explained his method of transferring and feeding bees. He gives the black bees due credit for gathering honey from cotton.

Peter Lambert and some others are satisfied that bees gather honey from corn-tassels.

Mr. Tuttle has discovered that ants rob cotton-bloom of its honey on the sandy land. He thinks that is the reason why bees gather more honey from black-land cotton-bloom.

Messrs. Graham, Hagood and Lowery were elected to represent the Association at the bee-keepers' meeting to be held at College Station, Tex., next July.

W. R. Graham was re-elected president; J. M. Hagood and W. R. Lowery, vice-presidents; and J. N. Hunter, of Renner, secretary.

After its usual vote of thanks for hospitality and entertainment the convention adjourned to meet in Greenville the first Wednesday in April, 1902. J. N. HUNTER, *Sec.*

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

The Chicago Convention Picture is a fine one. It is nearly 8x10 inches in size, mounted on heavy cardboard 10x12 inches. It is, we believe, the largest group of bee-keepers ever taken in one picture. It is sent, postpaid, for 75 cents; or we can send the American Bee Journal one year and the picture—both for $1.60. It would be a nice picture to frame. We have not counted them, but think there are nearly 200 bee-keepers shown.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses. By E. E. HASTY, Sta. B Rural, Toledo, O.

EARLY QUEENS FROM THE SOUTH.

As per Dr. Miller, on page 219, queens may arrive from the South when it's not altogether safe to introduce them. General requeening with young queens is often urged; and I think that this particular danger is very seldom pointed out. Usually a word to the wise is sufficient; but if it is a printed word he may not see it—so I think a little more "racket" on the point would be well. Doubtless the Southern breeders will be willing to assist in the racket—to moderate the push for extra-early queens.

QUEER KIND OF CHAFF HIVE.

Mr. Ochsner, of the Wisconsins, seems to have a queer kind of chaff hive. Pumps down heat so that melting occurs, and frames and colony have to be put into single-walled hives to stand the sun. That's not the kind of chaff hive which prevails elsewhere on the footstool. Page 229.

WEAK COLONIES IN THE SPRING.

Why does a weak colony in spring survive when left alone, but dwindle out and perish when united with several others like itself? I had made an off-hand guess that although not fighting when united they felt more like fighting than they did like going to work—disgruntled at the mixed company. Am quite willing to give up my guess in favor of Mr. Doolittle's more thoughtful solution—too much activity, too much brood started, and nearly all the bees dying off, in regular course of nature, before any young bees emerge. Page 231.

SWARMS CLUSTERING WITH CLIPPED QUEENS.

Prof. Cook gives us a good, hearty stake to tie to on page 232. Has seen hundreds of swarms issue whose clipped queens could not go with them; and only a few in the lot failed to cluster (either wholly or in part) before going back.

HYMENOPTERA—"MARRIED WINGS."

I'm a little disgruntled at Prof. Cook's Greek on page 233, where he translates Hymenoptera (the order to which our bees belong) "membranous wings." Don't wish to deny that the word will bear that translation, as meanings of words go; but what in Hymen is the matter now with the straight-out translation "married wings?" This is an allusion to the fact that each wing is bound to its neighbor on the same side by a series of little hooks. Has marriage become a failure even among the wings of bees?

DISCIPLE OF IZAAK WALTON.

And, so, according to page 238, its fishing you're going to set me at next. On the familiar principle, that a man can go on the most freely on a subject when he draws it fresh out of his own head (unpestered by facts and natural laws and experiences and things), I ought to be able to write a two-volume work on fishing. Tell Mr. Blunk it's 57 years this spring since I cast my first hook in the waters for fish. But I didn't catch any. Neither did I on any subsequent occasion. Never in my life caught even a minnow the size of your little finger. Send in your sub. for the volumes, if you want 'em.

WHY BEES BUILD A CERTAIN KIND OF COMB.

It is something of a mystery—and a mystery that we should very much like to solve—just *why* bees build worker-comb when they build it, and drone-comb when they build that. One rather feels that Mr. C. P. Dadant is walking on the water instead of touching bottom in that part of the subject, page 246. The facts are as he states them; but the reasons—well, we must show some respect to the reasons, too, till some one can offer better ones. In fact, if we assume that (for some unknown reason) bees *prefer* to build drone size, except when the queen (by some unknown means) causes them to build worker size, that will pretty nearly cover the ground, perchance. If the queen caused them to do it we would not need to assume that she intelligently caused it, nor yet that they fully understood the effect of their own work. But even then we might have trouble to answer when asked: Why then do they build any worker-comb in an upper tier of sections?

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

Polish Up the Dark Side.

Is life a fret and tangle, and everything gone wrong?
Are friends a bit disloyal, and enemies too strong?
Is there no bright side showing? Then—as a sage has said—
"Polish up the dark side, and look at that instead!"

The darkest plank of oak will show sometimes the finest grain,
The roughest rock will sometimes yield a gleaming golden vein;
Don't rail at fate, declaring that no brightness shows ahead,
But "polish up the dark side, and look at that instead!"

—PRISCILLA LEONARD, in The Churchman.

A LESSON FROM THE WAX-PRESS.

I am sure we have all been interested in the new method of extracting wax where the press is used, and where great saving of time, and a much larger quantity of excellent wax are secured. What a valuable lesson Christ taught the world at the time of the feeding of the multitude. It was a great occasion, and any one less than Divinity would hardly have thought of the fragments. Yet the blessed teacher of Nazareth asked that the fragments might be gathered up and nothing be lost. Many a man to-day is in comfortable circumstances because the fragments have been gathered up. Many home circles all over our land rejoice to day in numerous home comforts, not to say luxuries, because in early childhood the builders of these homes were taught the little economies which are not only helpful but really give pleasure in their practice. It certainly can not be beneath any person's dignity to form, or to teach, habits of economy when the Divine Master put the stamp of his approval upon this very habit. I have always been thankful that my dear father and mother taught me to make a thin paring as I peeled the apple, and to reduce the core to the minimum before it was thrown aside. So I am always glad when I see anything like these wax-extractor improvements, and rejoice that our friend, Mr. Hatch, and others, has given us the press that we may glean more, and more easily.

It is often the best of economy to save strength and time. How short-sighted people were to declaim against inventions. Whatever saves labor benefits our people, and gives to us all more of the comforts and blessings of life. It is not labor-saving machinery that brings inequality of conditions, divides classes, and creates social unrest. It is rather the abuse of these privileges, and the taking advantage of circumstance. Were we all to follow the Great Master in all his teachings, labor-saving inventions would bring only blessings in their coming.

I believe the world never had so many blessings as to-day. I believe there was never a time when the poor boy or girl who has energy and economy could reach forward so confidently towards position, and even wealth. I was happy the other day in telling my students of a man who once drove horses on a canal path, who had no father or mother to train him in ways of thrift or economy, and yet to-day occupies honored positions in two of our great universities. His name is known in every country where science is studied. Garfield had a grandmother to help him to thrift and position. Our friend found both with no help except his own inherent determination and power. I said to our students, "Haven't we a grand country, and don't we live in a grand time?" Whenever I read of anything like the wax-press, I feel like praising God for another step forward.

But there is another thing in connection with this wax-press which is to me more beautiful than the economy, and it is this that brought it into "The Home Circle" to-day. I refer to the fact that it removes this work from the house, and thus saves the wife and mother from much of labor and annoyance. I believe there is nothing that will test the good-nature and amiability of the housewife more than the presence of wax about the kitchen and the kitchen utensils, which are a part of the special equipment which she has to use. It was good to hear the men say in speaking of the wax-extractor, "It takes all this dirt and annoyance from the house." I believe this is the best part of the new invention,

and it is better still that the most of our bee-keepers will prize it most because of this very fact. Any one who knows Mr. Hatch and his kindly thoughtfulness, can readily understand his satisfaction as he removes this wax dirt from the domain of the household. Some may wonder that I speak of wax as "dirt." A weed is a plant out of place. Dirt is matter out of place. Purslane (pusley) on the common or by the roadside is no weed. In the garden or field it is a pestiferous one. Wax taken by the new method outside the house is neither dirt nor dirty. Inside the kitchen it is usually both.

THOUGHTFULNESS FOR OTHERS.

The above suggests what I believe will prove the best ornament in every home circle. I mean thoughtfulness to help and to give pleasure to all its members. In many a home the thoughtful habit becomes almost instinctive. If any member of the household has the habit of rising earlier than the others, he will also form the habit of great quiet before the others rise from their beds. Thus at this earlier hour he will find himself tiptoeing about the house, which he would not think of doing later in the day. The door will be carefully shut and will not slam, and the fire-lighting will be done so quietly that one wonders that so little noise is possible. This caution may become so instinctive that it will even last through the day, as I have known the father frequently to find himself tiptoeing even in the daytime as he approached the sleeping-rooms.

It has been my privilege in my past life frequently to pass, often quite late in the evening, by the house of an old gentleman whose habit it was to retire early, with a person whose thoughtfulness for others' comfort was always an inspiration to me. This one, as we approached the house of the old gentleman, would always lower the voice or cut short the laugh which might awaken the sleeping one. This never-failing thoughtfulness did more to beget thoughtfulness in others than would a dozen requests to act in like manner.

We often hear people lamenting that there is so little reverence at the present time among us. I believe this implies an error. I believe there is more genuine reverence among us to-day than there has ever been before. Yet, I am not wholly displeased at the complaint. Want of reverence is so hateful a thing that even fear that it is a growing evil may well cause unrest and regret. We must remember in this day of telephone and rapid transit, we have pictured to us the whole world, each day, and our fuller knowledge often misleads us in regard to the condition of society.

I repeat, I believe the world never had so much of reverence as it has to-day. It is certainly true that nothing so increases the reverent spirit among us as thoughtfulness. There is no place where thoughtfulness pays such large interest as in the home. I remember once a girl asked me for a sure test in selecting the right person for a life companion. I believe I made the correct reply: "The person who is ever thoughtful of father, mother, yea of all the members of the home circle—always intent to add to the pleasures of others, and equally careful never to wound or make uncomfortable—has a first requisite of the perfect husband."

Unselfishness must always be at the root of thoughtfulness. Unselfishness is a Godlike attribute. If we can only teach our children from the very cradle always to be thoughtful of the happiness of others, and always to be on the lookout for opportunities to make the home more a place of comfort and good feeling, we surely have done our part toward the building of an unselfish and a reverent character.

In the years when I lived at the Michigan Agricultural College, it was my habit to drive of a Sunday morning with my wife and family to the church in Lansing, three and a half miles distant. In going, we almost always passed one of the business men of the city going with his family to the same church. A little boy of this family invariably walked beside his sister. In the early years, up to the teens, they were always hand in hand, and the evident attention of the brother, and watchfulness for the comfort of his little companion were often the subject of remark in our family as we passed the little group. That little couple, all unconsciously, were helping us to become better people. As the young people grew into their teens, the same attention on the part of the brother was always in evidence. Walking on the windward side, picking up a fallen handkerchief, stepping back to let the others pass first into the church, were all signs of a lovely character which from the first challenged our admiration. Mrs. Cook often remarked, "There is the making of a model husband." Time proved that her judgment was not ill-founded. There are a few things which we in the home circles should never forget—love of truth, self-control, and this habit of thoughtfulness: it is a trinity of blessed qualities, and means so much not only to the life of the individual but to the comfort and blessedness of the home, that we should commence at the very cradle to speak their importance to the loved ones whose characters we are to fashion.

NEATNESS AND ORDER—A FOURTH VIRTUE.

It has been my happy fortune to visit very many of the bee-keeping homes of our country. It is always a rare treat to visit those who are interested in the same things that occupy our thought and attention. But as on the street or in the audience-room, one of the best pleasures comes from the study of others, their habit and manner, so in these visits it is not the least pleasure that comes to us to study the special habits of our hosts.

I remember my first visit to Mr. T. F. Bingham's apiary. I had often met Mr. Bingham in conventions, and was always pleased at his perfect attire and every courtesy, and so was prepared to find his shop and apiary the perfection of order and neatness.

I have one other example that is quite-as striking, and no one will wonder that it is suggested. It was that of Mr. Hetherington, who has been so long associated with Mr. Bingham in the matter of the honey-knife. Many of my readers will remember how pleasant it was to look upon Mr. Hetherington at our conventions. One had to see him but a moment to know that system and neatness were ever in attendance at the Hetherington apiary. And so it was. I might mention hundreds of similar cases. Mr. Hilton and Mr. Taylor were other examples. These men never came to a convention without a necktie, or with spots on their clothing. These gentlemen had apiaries that were justly their pride. It always gives me unalloyed pleasure to make such visits. These men have not to look for things, for everything is in place, and they could put their hand on every utensil even in the dark. Such system implies neatness, for nothing is out of place, and so from our definition above, there can be no dirt.

I have often wished that it might have been my good fortune to have visited the apiaries of Captain Hetherington, of New York State. I have no doubt he has the same habit of order and neatness that I admired at his brother's. We have all wondered that one man could manage so large a business as is carried on by Captain Hetherington, and win success all along the line. Does not the word system give quick explanation?

We have given above a trinity of qualities so excellent that we should commence at the cradle to develop them in the lives of our children. Would it not be well to make it a quartet, and add the virtue of neatness and order? This can be done by teaching the child always to hang his clothes neatly upon a chair as he retires; to keep his playthings in perfect order; and his room, if we can afford him one, always neat and orderly. Put a premium upon such habits, and if we ever knit our brow in disapproval, let it be upon occasions of finding a disordered room or an untidy drawer or closet. It is well to go often and inspect the drawers, and as we find them all in perfect order, put in them some coveted toy with the words neatly written, "Couldn't help it." Such a neat drawer merits a drawer full of toys.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

▭ **Queenie Jeanette** is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once, if you want a copy of this song.

The Premiums offered this week are well worth working for. Look at them.

Tennessee Queens!

Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3¼ miles apart, and mated to select drones, $1.50 each; untested warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and but few within 5 miles. 28 years' experience. Discount on large orders. Contracts with dealers a specialty. JOHN M. DAVIS,
6A26t Spring Hill, Tenn.

Please mention Bee Journal when writing

Bee-Keepers' Supplies.

Just received a consignment of the finest up-to-date HIVES and SECTIONS we've had. They are 2d to none. Complete line of Bee-Keepers' Supplies on hand. Bees and Queens. Catalog free.

THE A. I. ROOT CO.,
H. G. ACKLIN, Manager,
1024 Miss. Street, St. Paul, Minn.
14Atf Please mention the Bee Journal.

LONE STAR APIARIES

Price of Queens from Imported Mothers:
Tested..1—$ 1.50
Un " ..1— .75
Tested..6— 6.50
Un " ..6— 4.00
Tested..12— 12.00
Un " .12— 7.00
(Golden, same price.) Select tested, either race, $2.50. Write for circular.

G. F. DAVIDSON & SONS,
Establisht 1885. FAIRVIEW, Wilson Co., TEX.
12Atf Please mention the Bee Journal.

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.25 to

Prof. A. J. Cook, Claremont, Cal.,

FOR HIS

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

Queen-Clipping Device Free....

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & COMPANY,
Chicago, Ill.

A Word to the Wise Bee-Keeper

Is the title of an essay on queen-rearing. Sent free to all applicants. Address,

19A4t HENRY ALLEY, Wenham, Mass.

Please mention Bee Journal when writing

SOUTH DAKOTA FARMS

Is the title of an illustrated booklet just issued by the Chicago, Milwaukee & St. Paul Railway, descriptive of the country between Aberdeen and the Missouri River, a section heretofore unprovided with railway facilities, but which is now reached by a new line of the Chicago, Milwaukee & St. Paul R'y. Every one contemplating a change of location will be interested in the information contained in it, and a copy may be had by sending a 2-cent stamp to F. A. Miller, General Passenger Agent, Chicago, Ill.
19A3t

GENERAL ITEMS

A Young Bee-Keeper's Report.

My grandfather was a bee-keeper, and he gave a colony of bees to the oldest grandchild in each of his children's families, and I, being the oldest in our family, got one of them. We now have 12 colonies working nicely on fruit-blossoms.

We make our living mostly by selling section honey and poultry, and would like to have 50 colonies of bees from which to sell honey. I help mamma hive the bees and take off the honey; my father is not able to help any, so we three children all help a little. I am going to school now, but it will be out in four weeks, and then I will help with the bees. I am not afraid of them as a great many people are.

I am a girl of 13 summers, and not a very big one at that. GERTRUDE HENRY.
Page Co., Iowa, May 3.

Bees in Fair Condition.

At this time our bees are in fair condition, and we hope for a good crop of honey. All our colonies wintered well.

MRS. EMMA WOODMANSEE.
Arapahoe Co., Colo., May 9.

From a Young Bee-Keeper.

I am 18 years of age, and have been trying to keep bees for the last four years. I got up to 75 colonies, and as we had three dry years I lost 60 of them, so you can see we have hard times as well as anybody else.

EARL TUCKER.
Los Angeles Co., Calif., May 1.

An Industrious Lady Bee-Keeper.

We think we will have a good honey crop this year. Our bees are storing in the supers now, and are swarming right along. We have 48 colonies. You ought to have been here last week and the week before. I, myself, put up 75 hives, driving every nail, and then painted them, and caught all swarms that came out. My husband is a railroad conductor, and can't be here to help me, and I do not hire anything done on the place. I was out putting up hives one evening when a lady came in. She said, "Do you have to work that way? You have on a gold watch." I said, "I have silk dresses in the wardrobe, but I like to work. My husband tries to keep me from it, but he can't."

I think if more women would work there would not be so many bankrupt men. Of all things, a lazy woman is the worst. The bees teach us such good lessons. For 20 years my health had been so bad every spring that if I didn't use a tonic I was bedridden; but the little bee is the best tonic. For five years we have kept them, and I am out almost all day with them. I do not need a drop of medicine now. I tell many women if they would keep off the streets and stay at home, get a few colonies of bees, watch them, and read bee-books instead of novels, they would be better wives and mothers. They say, "Oh, the bees will sting." Well, if they do it will not last long. I would rather be stung trying to make something than to be stung for the want of something. MRS. C. R. WEST.
Ellis Co., Tex., May 6.

Prospect Good—Bees Stinging Chickens.

We are expecting a good honey crop this year. Bees wintered well, seem strong, and are building up fast at present. Fruit is a little past its best now. Vine maple will be the next to bloom after apple; it makes a very nice honey, and has a flavor like maple syrup.

I have about 30 colonies, mostly hybrids, though some of them are blacks. Last year

We want *

To sell you BEE-SUPPLIES!

Our line is all new and complete. Send for our Illustrated Catalog; it will convince you that our Dovetail Hive is the best on the market. Our prices are right, and our service is prompt.

Fred W. Muth & Co.

S.W. Cor. Front & Walnut Sts., CINCINNATI, O.

Please mention Bee Journal when writing.

ALBINO QUEENS If you want the most prolific Queens—If you want the gentlest Bees—If you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.
11A26t J. D. GIVENS, LISBON, TEX.

Please mention Bee Journal when writing

Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application. BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

Please mention Bee Journal when writing.

POULTRY BOOK FREE, 64 pages, illustrated with 3 mos. trial subscription to our paper, 10c INLAND POULTRY JOURNAL, Indianapolis, Ind

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Bees = Supplies

CATALOG FREE.

I. J. STRINGHAM,

105 Park Place, - NEW YORK, N. Y.
13A26t Please mention the Bee Journal.

PAN-AMERICAN OPENING.

The Nickel Plate Road will sell excursion tickets from Chicago to Buffalo at $13.00 for the round-trip on each Tuesday in May (the 7th, 14th, 21st and 28th,) with limit of 5 days, namely: returning good on any train to and including midnight train from Buffalo on Saturday following Tuesday tickets are sold. They will be good going on all trains on date sold.

Daily train from Chicago at 10:30 a. m., arrives Buffalo 2:05 following morning; daily train from Chicago at 2:30 p.m., arrives at Buffalo 7:35 next morning; daily train from Chicago at 10:30 p.m., arrives Buffalo 4:45 next afternoon.

All trains carry through vestibuled sleeping-cars. Individual Club Meals, ranging in price from 35 cents to $1.00, and no meal in excess of the latter figure, are served in dining-cars.

For sleeping-car reservations and all other information, call at Chicago City Ticket Office, 111 Adams St., or write John Y. Calahan, General Agent, 111 Adams St., Chicago, 'phone Central 2057. Chicago Depot: Van Buren St. and Pacific Ave., on the Elevated Loop.
No. 7—20A2t

I took off some very nice well-capped sections on May 13th, and expect to do as well this year.

I have had some experience with bees stinging chickens, which I think will be of benefit to the readers of the Bee Journal: Two years ago I was transferring a colony of bees to another hive. There were some chickens (barred Plymouth Rocks, and, of course, black) about two weeks old feeding in a pen near by, and also some white Pekin ducklings about one week old. The bees went for those chickens and stung them to death, but the ducklings were not stung at all. I think the reason why the ducklings escaped was because they were white, or light-colored; and to prove still further that bees hate black chickens, this year I had a hen with 14 chickens about two weeks old—13 were black and the other one white. The bees went for that brood of chicks and stung all but the white one. Five of the black ones lived, even though they were stung, but they were dumpy for a couple of days. But "Mr. White" was as happy as it is possible for a chick to be. The bees had no provocation to anger whatever that I could see. The hen was on the ground with the chicks about 8 or 10 feet away from the front of the hive, and the hive was 2½ feet from the ground.

I have been a reader of the American Bee Journal for two years, and would not be without it. GEO. G. CRAINE.

Whatcom Co., Wash., May 6.

Bees Expelling Water from Nectar.

I notice there has been quite a controversy in the American Bee Journal, among some of the correspondents, as to whether or not bees expel water from nectar on the way to the hives. A bee-hunter, and a very successful one, too, says that after a bee has secured its load and starts in a direct line to the tree, it always sends off a mist, but never until it has turned in a direct line for the tree.

I haven't had any swarms yet, though my bees are in fine condition. We don't expect to get any surplus until July, or until the cotton begins to bloom. J. R. SCOTT.

Lamar Co., Tex., May 6.

Bees in Good Condition.

Bees are in good condition now. Also the weather is good at present.

JOSEPH CREECH.

Ontario, Canada, May 8.

Keeping Bees for Pleasure.

I have only 6 colonies of bees, keeping them for an interesting pastime. All wintered well in the house basement, which is dry and airy. They used but very little stores during the winter. I moved them outdoors the last of March, and they have been very busy gathering pollen for the past three weeks.

I have taken the American Bee Journal for over two years, and must say that it is a wide-awake, up-to-date bee-journal.

THOS. L. MCRITCHIE, M. D.

Ontario, Canada, May 9.

Marketing Honey—Selling Too Cheap.

I have never sold much honey, bee-keeping being a side-issue with me, as my ministerial duties and my berry-farm claim the most of my attention. I have kept a few bees for about 10 years, and now have 17 colonies, and have taken the American Bee Journal for a number of years.

There are a good many bees kept in this county, but mostly by farmers. One man has 50 colonies and another has over 100, but neither of them takes a bee-paper.

But little, if any, honey is shipped out of the county, and there is no co-operation among the bee-keepers in marketing the honey crop, but it is "every man for himself," and as a result prices are low.

As I had only 6 colonies last spring, and the most of them were weak, and as I cared more for increase than for honey, I had very little more than we needed for our own use. However, last week I took 25 pounds of first-class honey to our county-seat, and all I could get for it was 10 cents in cash, or 11 cents in trade. They were retailing it at 15 cents. I took the 11 cents in trade, but told the merchant to whom I sold it that I did not see what the bee-keepers were thinking about to sell at such prices when it was quoted at 16 and 17 cents wholesale in all the large cities. I have been told that the prevailing price made here by the bee-keepers to the merchants is 10 cents per pound for clover and basswood comb honey, and some of them have peddled it at that price, though they selected the sections that were not well filled. Such prices do not inspire one with very much zeal to engage in bee-keeping. J. RIDLEY.

Winneshiek Co., Iowa, March 11.

A Home in Colorado FOR SALE

I have a fine Fruit-Ranch of 14 acres here at Fruita, all set to fine fruit, principally winter apples, with plenty of small fruits, peaches, pears, plums, cherries, apricots, prunes, and about 700 grapes; 100 colonies of bees, mostly Italians, and about 100 fine Belgian hares that I will sell with the place. The orchard is in fine bearing, being about 10 years old, and is clean and free from weeds. The house is a good 7-room one, nearly new, with bath and water; a good new barn for two horses and two cows; good brick hen-house and two good cellars, good lawn and shade. I have a paid-up water-right with the place, with an abundance of water at all times for irrigation. I am desirous of making a change in my occupation, and will sell the place **at a bargain.** With the proper party the yield from the place this year will be about $2,000. It joins up to within 20 rods of the town site of Fruita, where we have one of the best high schools in the State, employing 7 teachers. It is only ½-mile to the depot, churches, school and post-office, and has telephone connections with all parts of the State. This is a good, healthy climate, and good society.

Address for terms and further particulars,

J. C. CARNAHAN,

Box 64, FRUITA, Mesa Co., COLO.

Please mention Bee Journal when writing

Black Queens

50 BLACK QUEENS for sale—50c each, by return mail. RIVER FOREST APIARY,

21Atf RIVER FOREST, Cook Co., ILL.

Italian Queens

reared from the old reliable Leather-Colored Stock by the best methods. I keep 100 colonies of Italians to select my breeders from, and I breed from none but the very best honey-gatherers. Untested, 55c each; 1 dozen, $6.00. Safe arrival. Send for price-list. Address,

W. J. FOREHAND,

19Dtf FORT DEPOSIT, ALA.

Please mention Bee Journal when writing.

GOOD WHEELS

MAKE A GOOD WAGON.

Unless a wagon has good wheels it is useless. **THE ELECTRIC STEEL WHEELS** are good wheels and they make a wagon last indefinitely. They are made high or low, any width of tire, to fit any skein. They can't get loose, rot or break down. They last always. Catalog free.

Electric Wheel Co., Box 16 Quincy, Ills.

MANUFACTURER OF

BEE-HIVES

Sections, Shipping-Cases—Everything used by bee-keepers. Orders filled promptly. We have the best shipping facilities in the world. You will save money by sending for our Price-List. Address, Minn. Bee-Keepers' Supply Mfg. Co., Nicollet Island Power Bldg.,

16Atf MINNEAPOLIS, MINN.

Please mention Bee Journal when writing.

1901—Bee-Keepers' Supplies!

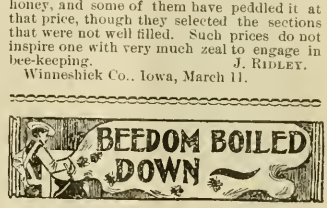
We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog.

M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

EXCURSIONS TO BUFFALO EXPOSITION—via Nickel Plate Road,

On May 7th, 14th, 21st and 28th, respectively, at rate of $13.00 for the round-trip from Chicago; good returning 5 days from date of sale. Three through trains daily, with vestibuled sleeping-cars and first-class dining-car service. For particulars and Pan-American folder, write John Y. Calahan, General Agent, 111 Adams Street, Chicago. Depot: Van Buren St. and Pacific Av., Chicago, on Elevated Loop.

No. 8—20A2t



Measuring Bees' Tongues.

All that is required to measure bees' tongues is a steel rule with hundredths of an inch marked off on one side; a glass magnifying five or ten diameters; a pair of tweezers and a darning-needle, and a dime's worth of chloroform. Put up about a dozen bees of mature age in a common mailing-age. Avoid taking young ones, as the tongues of such are not quite as long as those that are able to go to the fields. Pour a few drops of chloroform on a handkerchief and lay this over the bees. In about a minute the bees will be sufficiently stupefied so they can be handled, and the tongues will, from suffocation, be protruded almost their whole length.

Pick up a bee and decapitate it. Lay the head and tongue on the steel rule just above the graduations of hundredths, face upward. With one hand exert a gentle pressure on the head of the bee, and, with the other, comb the tongue out straight, using needles or tweezers in either case. The pressure on the face is to cause the tongue to protrude its full length.

Now, while the tongue is carefully combed out, take the glass, focus it on the tongue, and count off the hundredths, beginning from the ends of the mandibles or jaws, and ending with the end of the tongue. Proceed thus with all the bees in the cage, putting down on paper the exact results after each measurement. Strike a general average, and this average gives the measurement by which we go.

As a rule I find there is but very little variation in the tongue-reach of the bees in any one colony. Sometimes they are all alike; but in the case of some individual bees it is more difficult to get the tongue combed out its full length.—E. R. ROOT, in Gleanings in Bee-Culture.

Thick vs. Thin Top-Bars.

S. T. Pettit, in Gleanings in Bee-Culture, says the idea that thick top-bars are desirable for any other reason than to prevent sagging is a delusion. The width is the important thing, and a top-bar ⅛-inch thick would be better than one thicker if it had the proper rigidity; but for rigidity he is obliged to have ⅝-thickness. A top-bar ¾ thick is wasteful. That extra ¼ inch, besides making bees more slow to enter sections, amounts to a loss of 1,600 to 2,000 or more cells in a hive. Dr. Miller replies as follows:

The mistake is in counting that the same number of bees are occupied brooding those sticks as would be occupied in brooding ¼-inch depth of comb. The space between the top-bars is ¼-inch, and that between brood-combs about 1½-inch, thus knocking out half this objection at a clip. But even that half of the objection will not stand. When the weather is hot, as it generally is when supers are over the top-bars, there is no trouble about keeping up the heat; and at any time

BEE-KEEPERS' SUPPLIES

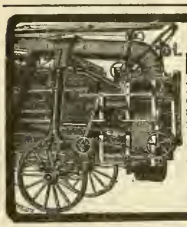
THE FINEST IN THE WORLD.

Our New 1901 Fifty-Two Page Catalog Ready.

Send for a copy. It is free.

G. B. LEWIS COMPANY, Watertown, Wis., U.S.A.

Branch, G. B. Lewis Co., 19 S. Alabama St., Indianapolis, Ind.
Excellent shipping facilities and very low freight rates for Southern and Eastern territories.



The Business End of the NEW RUMELY SEPARATOR

Like all the "Rumely Goods" this is simply perfection. When coupled to our New Rumely Rear Geared Traction Engine they constitute a threshing outfit that not only makes big money for the thresher, but saves grain and money for the farmer. They are durable beyond comparison and when you buy them you are done buying for years to come. Take a little time to think about how it would pay you to own such an outfit, then write us for free catalog.

M. RUMELY CO., La Porte, Ind.

Please mention Bee Journal when writing.

28 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 28 cents a pound—CASH—for best yellow, upon its receipt, or 30 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., CHICAGO.

Marshfield Manufacturing Company.

Our Specialty is making SECTIONS, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

8A26t Marshfield Manufacturing Co., Marshfield, Wis.

Red Clover Queens

LONG-TONGUED BEES ARE DEMANDED NOW.

ONE Untested Italian Queen FREE as a Premium for sending us TWO new subscribers to the American Bee Journal for one year (with $2); or, one Tested Queen free as a premium for sending us FOUR new subscribers with $4.00).

We have arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us the coming season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

Orders for these fine, "long-reach" queens will be filled in rotation—"first come, first served"—beginning about June 10th. It is expected that orders can be filled quite promptly, as a large number of nuclei will be run. All queens will be guaranteed to arrive in good condition, and all will be clipt, unless otherwise ordered.

CASH PRICES of these fine queens will be as follows: Untested, $1.00 each; Tested, $2.00 each. Send all orders to

GEORGE W. YORK & CO.
144 & 146 Erie St., CHICAGO, ILL.

Please Mention the Bee Journal when writing Advertisers *****

when it becomes cool the bees will shrink away from the space between the top-bars, and cluster on the combs above and below. Suppose you have a colony fully occupying two stories. Now put between these two stories another story filled with dummies an inch thick. Do you suppose it will take 50 percent more bees to "man" the combs than it did before? I suspect 5 percent would be plenty.

Even if the loss were all he supposes—1,600 to 2,000 cells, or 1-33 of the brood-chamber—I should still want the top-bar ⅞ deep. At one time I used, entirely, wide frames holding eight sections; and when I put on a super I put in the middle of it a brood-comb from below. The bees very promptly occupied that super, but it did not answer to leave the brood-comb there very long. If I left it long enough for the bees to begin sealing the sections, they would carry across some of the old comb, and the sections would be about as dark as the combs opposite. With ⅞ top-bars, which I used exclusively for many years, the same thing would happen to a certain extent if no slat honey-board was used, especially if the sections were left on some time after being sealed.

So if the prevention of burr-combs by deep top-bars be all a delusion—which I do not believe—and if there is a loss of 1,600 to 2,000 cells to a colony—which I am very far from believing—I still want ⅞ top-bars for the sake of having the sections so far from the brood-combs that the bees will not find it convenient to carry up a lot of black wax to spoil the snow-white sections.

The Poison of the Bee.

The inflammation and other unpleasant symptoms which usually appear after a bee-sting are often attributed to that sharp acid so widely distributed in the animal kingdom, and known under the name of formic acid. This fluid, however, has nothing to do with the swellings, its utility to the bees is of quite another character. Prof. Joseph Langer, of Prague, a little while ago, examined the contents of the poison-glands of 25,000 bees. This he found to be a clear fluid, soluble in water, tastes bitter, and has a pleasant aromatic smell, which, however, soon passes away; this scent can not, therefore, be the poison. The formic acid which gives its peculiar acid reaction to the contents of the gland is also very evanescent. The contents of the gland itself retain their poisonous properties, however, even when dried and subjected to heat. The poison is, we therefore suppose, a vegetable base, an alkaloid, as the most active poisons in the vegetable kingdom are known to be.

Prof. Langer proved that the poison has no effect whatever on a healthy skin; if, however injected under the skin, all the symptoms of bee-stings set in. Should it reach the larger veins or arteries it causes a general disorder of the system, which reminds one of snake-poisoning. The weight of the poison injected into the wound made by a bee's sting is between 2-10,000th and 3-10,000th part of a gram. The largest part of this is formic acid, which is such an important factor for the well-being of the bees. This works as a means of preserving the honey, owing to its acid reaction. The bee allows a little formic acid to fall into each cell filled with honey before it is closed or sealed, and this small quantity is enough to prevent fermentation. Honey extracted from unsealed combs never keeps long unless 0.1 percent formic acid be added, which is all that is required.—Translated from the German by R. Hamlyn-Harris, in the British Bee Journal.

Weight of Bees and Their Loads.

The following Stray Straw appears in Gleanings in Bee-Culture:

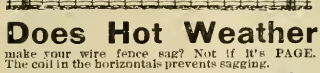
Alex. Astor reports in Revue Int. that he made 140 weighings of bees, weighing 2,300 bees in all, and he gives in milligrams the weights of different kinds of bees. From this

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.

I deduce the following table, showing the number of bees in a pound avoirdupois:

4054 bees just out of the cell.
3898 bees falling before a swarming colony (probably 2 or 3 days old).
2457 wax-workers.
3974 swarming workers.
4885 black workers in May-June.
5066 Italian workers in May-June.
5151 black workers in July-August.
5271 Italian workers in July-August.

According to that, the load of honey of a swarming bee is about ¼ its own weight.—[This table is exceedingly interesting—the more so, as I think it confirms very well the figures that have been given heretofore. It appears, then, that bees weigh more during the swarming season, and that wax-workers weigh the most of any. This fact is new as well as interesting. It appears, again, that in May, June, July, and August the black workers are heavier than the Italian. I had always supposed that the average Italian bee was, if anything, a shade larger or heavier than the black. Is it not possible that the black bees referred to were Carniolans, or of that persuasion? If so, there would be all that difference as indicated in the table in the relative weights, for we have come to assume that the Carniolan is the largest bee of the species *Apis mellifica;* and we have also assumed that the little black bees of this country—not the brown bees—were the smallest. With regard to the amount of nectar a bee can carry, it seems to me the figures that I have seen heretofore are somewhat in excess of one-fourth its own weight. There, I have just looked it up. Yes, Prof. Koons estimates there are 4500 bees in a pound, and that 10,000 bees can carry a pound of nectar, this being the fewest number to carry such an amount. According to this, then, a bee can carry half its own weight in nectar. But Prof. Koons estimates that on an average it will not carry more than one-fourth of its own weight; and this agrees with the above figures. But so far as wing-power is concerned, we know that one bee can carry one of its companions; it could, therefore, carry its own weight in nectar, providing its honey-sac would hold that amount, which is probably not true. I have dissected the honey-sac of worker-bees when they were filled with nectar, so that they almost dropped down as they flew in at the entrance. This sac was, at the time, about the size of a No. 4 shot, or perhaps a little larger.—EDITOR.]



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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, May 7.—There is very little being done in honey at present with practically no demand for the extracted grades; several consignments on sale here for some time, without any bids being made. A little choice white comb sells in a retail way at 10c, with all other grades scarce and firmly held at about former prices. Extracted, 7@8c for fancy white; ambers, 6@7c; dark, 5@5½c. Beeswax, 30c.

R. A. BURNETT & Co.

CINCINNATI, May 17.—No demand for comb honey, also stock of it well exhausted. Extracted very dull; sales are more or less forced; lower prices from ½ to 1 cent per pound.

C. H. W. WEBER.

BUFFALO, May 18.—Fancy 1 lb. comb, 15@16c; dark very dull indeed, 8@12c. Berries hurt sale of honey now.

BATTERSON & Co.

OMAHA, May 1.—Comb honey, extra white, 24-frame cases, per case, $3.40; No. 1, $3.25; amber, $3.00.

PEYCKE BROS.

DETROIT, Apr. 18—Fancy white comb, 14@15c; No. 1, 13@14c; dark and amber, 10@12c. Extracted, white, 6½@7c; amber and dark, 5@6c. Beeswax, 27@28c.

M. H. HUNT & SON.

NEW YORK, May 3.—We report a quiet market on all lines. While the old crop of comb honey is well exhausted, still there is some arriving, which has been carried by the producers, evidently, for a higher price. Values are mostly nominal now, and it is only a first-class fancy article that will sell at quotation prices. We quote: Fancy white, 15c; No. 1, 13c; amber, 11@12c; buckwheat, 9@10c. Extracted is decidedly dull, and very little inquiry. Old crop of California light amber and partly white, is now being offered as low as 4½c a pound f.o.b. coast, which, of course, hurts the sale of other grades in a large extent. Beeswax is firm and sells on arrival at from 28@29c.

HILDRETH & SEGELKEN.

KANSAS CITY, May 4.—Practically no shipments arriving, and very little selling. We are getting $3.50 to $3.65 per case of 24 sections No. 1 white; amber, $3.00 to $3.25. Beeswax scarce at 25c.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

ALBANY, N. Y., May 3.—Honey market very dull. Very little call for anything but choice comb honey, of which there is a scarcity. Extracted quiet.

H. R. WRIGHT.

BOSTON, May 4.—Fancy white comb honey we quote at 17c: A No. 1, 16c; No. 1, 15@16c. No call at all for dark honey this year. Water-white extracted, 8@8½c; light amber, 7½@8c. Beeswax, 27c.

Our market on comb honey is firm with light stocks and a fairly good demand for this time of the year.

BLAKE, SCOTT & LEE.

SAN FRANCISCO, May 8. — White comb 11@12 cents; amber, 8@10c; dark, 6@7 cents. Extracted, white, 5@6c; light amber, 4@4½c; amber, 3½@4c. Beeswax, 26@28c.

The market is quiet and lacking in firmness. Buyers are holding back, anticipating liberal offerings soon. Dealers appeared before the Board of Health of this city, to receive sanction for the use of glucose in honey to prevent granulation, but the Board refused to take any special action.

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Alfalfa Clover	80c	1.40	3.25	6.00
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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., MAY 30, 1901.

FORTY-FIRST YEAR No. 22.

WEEKLY

CUBAN HONEY-PLANT, AGUINALDO OR BELLFLOWER.
(See page 338.)

THE AMERICAN BEE JOURNAL.

PUBLISHED WEEKLY BY

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EDITORIAL STAFF.

GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

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To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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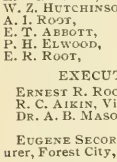
A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

AN APPROPRIATION from the Ontario Government, of $500 is to be used in helping to make an exhibit at the Pan-American Exposition. Up that way they know how to get up a good show.

"DISEASES OF BEES AND LEGISLATION" is the title of a small pamphlet issued recently by Mr. N. E. France, State inspector of apiaries for Wisconsin. It treats of foul brood, its cause and cure; pickled brood, black brood, dysentery, etc. Under "Legislation" it gives the laws of Wisconsin relative to bees. It can be had free by the bee-keepers of that State.

"THE HOME CIRCLE" department is thus very kindly referred to by "Stenog" in Gleanings in Bee-Culture:

"Prof. Cook's talks for the home circle, now running in the 'Old Reliable,' constitute a most excellent feature of it. They bear largely on the proper management of children, and home conduct in general. All who have Mr. York's paper will do well to read these lines of Prof. Cook the first thing, as they fit one for what follows. Best of all, we know that the writer speaks from experience, and in his daily life is an exponent of what he enjoins."

FRENCH HONEY-CARAMELS.—The Gazette Apicole, a French exchange, gives the following recipe for making caramels, which it pronounces "incomparable." Rose water, 15 grams; powdered sugar, 100 grams; fine honey, 200 grams. Mix and boil, stirring constantly, until a drop of the compound, when cooled, is hard and fragile. Pour out on a buttered or oiled marble slab, and shape the mixture into suitable pieces by means of a teaspoon. So reports Gleanings in Bee-Culture.

DR. C. C. MILLER is nothing if not a crank on the subject of roses. Of course, any one who is that kind of a crank is a delightful crank. In Gleanings in Bee-Culture he wafts this bit of rosy perfume through a single Stray Straw:

"One rose in September is worth more to me than ten in June; so as soon as the blossom-buds show on the hybrid perpetuals I carefully pinch off every one except one or two of the most advanced on each bush. Then the bush is not exhausted with its June crop, so as to give no roses later. Of course, that will not do for June roses, but their stalks are cut back severely in spring, which makes the blossoms a little later, and perhaps a little finer."

CUBAN HONEY-PLANT OR BELLFLOWER.—Mr. O. O. Poppleton, of Dade Co., Fla., wrote us as follows May 1:

FRIEND YORK:—I send you to-day a photograph of my Cuban bee-plant, taken last December, while it was in full bloom. It grows over the porch of my house. This plant is the source of nearly all the vast amount of honey obtained in Cuba, and I am informed that it is also abundant in other islands of the West Indies; also in Mexico.

Its scientific name is *Ipomœa sidæfolia*, common name, "Aguinaldo," while in English it is usually known as "Bellflower." This is one of the Morning-glories, probably the most abundant bloomer of the entire genus. It is confined to the tropics, as frost kills it to the ground.

The flowers are shaped like a church-bell, are about 1¼ inches across and deep. It is nearly all a pure white, shading into purple and yellow in the bottom of the inside of the flower. In Cuba it blooms from about Nov. 25 to late in February. It is a very showy flower, and when in full bloom it looks, at a little distance, almost like snowbanks, especially where it runs over hedges or fences. It not only yields large quantities of honey, but seems to yield it steadily under all conditions of weather. Nothing seems to lessen the yield from it, unless the weather is such as to prevent the bees from getting out and working.

Honey from the flower is of about the same color and body as that from white clover, with a distinctive but rather mild flavor of its own. I should judge that it will rank in the general markets as between white clover and basswood honeys, not equal to the first, but better than the last.

The principal interest this flower has to American bee-keepers is the fact that it furnishes nearly all the foreign honey that competes with our product in our own markets. Those of us who have to dispose of our crops in the Eastern seaboard markets, are already feeling the result of its competition.

O. O. POPPLETON.

MRS. GEO. JACKSON, of Grand Traverse Co., Mich., is one of the growing number of very successful women who keep bees. The following paragraph from Gleanings in Bee-Culture tells something of the results she has obtained:

"In the fall of 1897 I had 18 very strong colonies, and about 900 pounds of comb honey. The bees again wintered well, and in the spring of 1898 I had still 18 strong colonies. Well, I felt, and do still feel, proud of those bees. They commenced work the first day they were out of the cellar, and worked every pleasant day during the summer, and until heavy frost came in the fall. One colony, the "Queen" of my apiary, did itself "proud." During the season we took from it *ten supers* of well-filled and nicely capped white honey, each super containing 24 pounds. It did not swarm, and we had a heavy flow of basswood honey. The other colonies swarmed early, and June 10 I had 37 strong colonies. I did not get less than two supers of honey from any colony, and from many of them four."

Mrs. Jackson says that Mr. Jackson has given up all claim to the bees, "reserving only the privilege of eating the honey." He is a wise man. Any man who has a wife that can get such results from bees as Mrs. Jackson has done, can do no better than simply to lay claim to his wife only, and then let her manage the rest. Her price is *far* above—well, say "$200 red-clover queens!"

MAXFIELD PARRISH'S fine decorative design on the cover of The Ladies' Home Journal for June forms a fitting introduction to a remarkably attractive issue. Among the most interesting features of this number are a double page of pictures, entitled, "Where Golf is Played," showing some of the handsomest country club houses in America; a series of curious "Love Stories of the Zoo," told by Clifford Howard; the first installment of a fascinating new serial, "Aileen," by Elizabeth Knight Tompkins; a touching full-page picture of "The Passing of the Farm," by W. L. Taylor; the queer experiences with "Some People I Have Married," by the Rev. D. M. Steele, and a vigorous article on "Women as 'Poor Pay,'" by Edward Bok. Numerous other articles of general and domestic interest fill out the rest of the number. By The Curtis Publishing Company, Philadelphia, Pa. One dollar a year; ten cents a copy.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., MAY 30, 1901. No. 22.

Editorial.

The Freight-Rate on Comb Honey was left unchanged by the Western Classification Committee at its recent meeting in California. We suppose bee-keepers ought to be grateful for this, but in all justice to comb-honey producers, the rate should be reduced. Perhaps with the proper effort on their part at some future time the reduction will be secured.

Steam-Press Wax-Extractors.—A late number of Gleanings in Bee-Culture occupies several pages discussing wax-extractors. It seems that for several years in Germany and France, and more recently in this country, wax-extractors have been in use by which the wax is pressed out by a screw-press, the press all the while being kept within steam, so that there is no danger of the wax chilling as when taken from a heated place and put in a press in a lower temperature. Some object that these steam-press extractors are on too small a scale for rapid work. Gerstung, a German editor, has invented a press to work in hot water, which he claims is better than in steam. It is possible that the solar extractor may have to take a back seat for something that will do more thorough work in getting the wax out of old combs.

Foul Brood in Michigan.—Geo. E. Hilton, president of the Michigan State Bee-Keepers' Association, sends us the following concerning the foul-brood law in that State, which he desires all Michigan bee-keepers to read:

TO THE BEE-KEEPERS OF MICHIGAN.—

So many letters are coming to me regarding the foul-brood law in Michigan, that I will try, through the bee-papers, to answer in a general way, and save myself valuable time at this busy time of the year.

First, the law is in operation to-day, and the inspector is appointed. I feel very much relieved. I have made four trips to Lansing in behalf of the measure, and it required all the influence that myself and others could bring to bear to secure its passage, as its importance was so little understood. I have paid out about $50 in expenses, to say nothing of the time I have donated, which would amount to as much more. And now I want the bee-keepers of the State to take advantage of the law, and receive the benefits that may come from our efforts.

I went to Lansing last week, spending a portion of three days, and succeeded in having John M. Rankin, our State apiarist, appointed as our inspector, and I know of no one that can better attend to the work, or who is more worthy of the position. The work is under the management of the State Dairy and Food Commissioner, Hon. W. B. Snow, of Lansing, Mich., to whom all communications should be sent. He is in direct communication with the Agricultural College, and will inform Mr. Rankin what is expected of him.

We have but $500 to use this season, but as the necessity of the work becomes apparent we shall be able to get more. The disease has an alarming foothold in our State, and it behooves every bee-keeper in Michigan to do his whole duty in assisting in the extermination of this dread malady.

Trusting the above will make everything plain, and save me many personal letters, I am,

Very respectfully yours,

GEO. E. HILTON,

President Michigan Bee-Keepers' Association.

Mr. Hilton and others deserve the thanks of every Michigan bee-keeper, for their successful efforts in securing the passage of their foul-brood law, and also for the appointment of Mr. John M. Rankin as foul-brood inspector. Now, let all co-operate in the attempt to eradicate completely the scourge which Mr. Hilton says has already gained such a foothold in Michigan.

Other States should promptly follow the good examples set by Wisconsin, Michigan, Colorado, and some other progressive States that have been wise enough, and energetic enough, to enact laws for the purpose of protecting the bees from the deadly disease of foul brood.

Let us all hope that after the bees, the hogs, the cattle, and all other farm live-stock have been fully protected, our legislators will wake up to the importance of protecting that "best crop of the farm"—the boys and girls—from the curse of the saloon. Up to the present time they are not considered of sufficient value in most States to overbalance the greed for ill-gotten financial gain.

Simmins' Method of Introduction seems to be gaining in favor. Confine the queen fasting for 30 minutes, keeping her warm, and let her run quietly in at the top of the hive, preceding and following with a puff of smoke. This at night. Then don't disturb the colony for 48 hours.

Dzierzon and Langstroth.—Some discussion has taken place in Gleanings in Bee-Culture between Editor Root and Dr C. C. Miller as to the merits of these two great leaders. From the discussion it appears that neither of the two gets more credit anywhere than he deserves, and that neither gets outside his own country as much credit as he should have. The work of Langstroth is not fully appreciated in Germany, and Dzierzon is too little appreciated in this country. The high value of the doctrine of parthenogenesis given by Dzierzon is by some fully appreciated on both sides the water, while many on this side scarcely know what is meant by the term. In Germany Dzierzon is credited with the invention of movable combs (bars being used with side-opening hives necessitating the cutting of the combs from the hive-walls at each removal), the great improvement of movable *frames* being apparently considered by many as part and parcel of Dzierzon's work, while Langstroth is scarcely recognized; while on this side it is apparently not generally known that Dzierzon gave to his countrymen movable combs before movable frames were invented, his bar-hives still being in use in that country.

While not taking a single leaf from Langstroth's crown of laurel, we on this side can right at least half the wrong by recognizing Dzierzon at his full worth.

Decoy for Swarms.—Mr. Doolittle says in the Progressive Bee-Keeper that years ago he hung up dried mullen tops that had been out over winter, for swarms to settle on, and three out of four swarms chose those settling-places. For those who allow natural swarming he commends the following, which he cut out of an old newspaper:

"A good way to catch swarms is as follows: After each melting of wax preserve the residue of dirt, pollen, cocoons, etc., which is left after the wax has been pressed out, until enough for the purpose has been obtained, when you will add to it one-half pound of rosin and melt it all in an old vessel. Then having secured some old mullen tops, take an old spoon and spread some of the mixture onto one side of two or three, then keep adding more tops and of the mixture, until the whole cemented together is a fairly good representation of a swarm of bees, when you have an excellent bee-bob. When the swarming season comes on, hang your bob on the limb of a tree or a pole in the apiary, within the reach of your hand, and of the bees also, and nearly every swarm will settle on it. For something to hang it up by, put in a good, stout wire while making, cementing it in at the center."

A School for Bee-Keepers is one of the up-to-date things in Vienna, Austria. Government aid has been secured, ground purchased, and a building erected. The German bee-journal, Bienen-Vater, has a fine picture of the building, and another of the apiary. A chief course is to be held some two weeks, beginning in June, with a possibility of the same being repeated. Only 20 applicants will be received at these chief courses. Subsidiary courses will be held on 10 specific afternoons on different dates from June to September, allowing 40 to attend. Tuition is entirely free.

Contributed Articles.

Depending Upon Bees Alone for a Living.

BY C. DAVENPORT.

I HAVE noticed that the question, "Is it safe for one to depend upon bees alone for a living?" is one that is frequently asked, and Dr. Miller has ably handled the subject a number of times, but perhaps a few words from me in regard to the matter may not be considered out of place, for I am one of the few who are specialists, that is, I have no other business or occupation of any kind except bee-keeping, and I have made a living and enough so I could stand a few failures without going to the poor-house. But my locality is a good one, and I have had nobody but myself to support, for I have never been able to secure one of those "queens" that wear dresses and other clothes, so the prospect of a crop-failure, with me, has never caused the fear of having children crying for bread.

If I had my life to live over again I should not be a bee-keeper, for I believe the work I have done to make what might be called a success in our pursuit, would, in some others, have resulted in better success financially, and also in other ways. But I am now too old to change my occupation, and it is not likely that I will ever do so. And while I should not advise a young man to take up bee-keeping as a life work, in my opinion there is no question but what a living can be made at it in a good locality, if one understands the business. There is, though, no need for a man with a family to depend altogether on bees for a living, for he should own at least a few acres where the home yard is located, so that a few cows and pigs, and a large flock of poultry, could be kept. These with 300 or 400 colonies of bees would, in a good locality, insure a living for a family, and a bank account as well.

I am acquainted with a bee-keeper who has about the above number of colonies, and his income last year was about $1800; though this to some might be considered a small amount, here it is considered a large income, and by some would be looked upon as a small fortune. Though we are not as bad here in this respect as a man from one rival region who wrote to a firm in regard to their lowest-priced saw-mills. Soon after the information was sent, the firm received the following letter from him:

"Der Surs:—I aint a gointer buy any saw-mil. Wat do yer take me fer? If I had $300 what do yer think I wud want a saw-mil fer?"

It seems that in his locality $300 was considered enough so that any further business enterprise to increase the amount was needless. And as with this man, some may find that it costs more to secure and properly equip 300 or 400 colonies for either comb or extracted honey than they think it does; and to make a success of bee-keeping at the present time, modern hives and appliances must be used. It is so now in any business or pursuit. To succeed one must keep abreast of the times, and the profession of bee-keeping is not as easily acquired or mastered in all the many details essential to success as many imagine, for probably in few if in any other pursuits is there so much conflict of opinion as there is in ours. So many of these important details must be settled and determined individually, for the methods and appliances that work well with some, may with others in a different, or even the same, locality, be a failure.

For instance, about the worst investment I ever made in our fixtures was for 40 wood-zinc queen-excluders. Do not think that I am condemning excluders, for I use a large number of them, but they are all-zinc. I know that many prefer wood-zinc to all-zinc, but with me they are worthless.

The way I remove an excluder from a hive is to insert the thin edge of my hive-tool under it, and strip it right off. When this is done here with wood-zinc, the very thin pieces of wood that hold the zinc strips to the wood partitions are also stripped off, and the whole thing soon comes to pieces. It is the amount and character or stickiness of the propolis gathered in my locality that causes this. Even with the all-zinc wood-bound ones, the thin part of the wood frame that holds the zinc soon peels off, so that I have to make new frames; but frames can be made for them that will hold to be stripped right off, no matter how badly stuck to the hive and top-bars they are. Of course, one could use enough care to remove any kind without injury, but I have not time for this. During the busy season I have to make things move quickly, and it is money worse than wasted for me to invest in, or keep any appliances with which much unnecessary care has to be used, or that requires needless time to handle.

To illustrate again, last season I was explaining to a bee-keeper the great superiority of hives that did not have an entrance cut in the hive itself, which allowed them to be quickly tiered up, mouse, bee, and even dust tight. His reply was that if entrances were cut in the hives, and it was desired to tier them up, it did not take long to stuff in rags. It takes more time, though, than I can spend for this purpose. When a hive body or cover, with me, needs to be stuffed with rags, it soon goes to the wood-pile. Not but what they can be used so as to help secure as much surplus honey as those which are not defective, but with me the time lost in fussing with them is soon worth more than the cost of new ones. And in regard to bees themselves, I want the German, or what I call the brown bees, for comb honey. I believe I stand practically alone in this matter, but after years of experience in a large way with both races side by side in the same yard, I am convinced that I can secure more surplus white comb honey here with brown bees than I can with Italians. The main trouble I find with Italians is their determination to stuff the brood-chamber at the commencement of the flow, and I have never been able to overcome this trait. And then, after they have put anywhere from 15 to 30 pounds of white honey in the brood-chamber which should have been in sections, instead of then being willing to work in sections, they are usually determined to swarm, and Italian swarms do not, with me, do as much section-work as do the swarms of brown bees. With the latter I can secure practically all the white honey in the sections, whether they swarm or not.

But in my opinion there is as much difference in brown bees as there is in Italians. For extracted honey I prefer Italians; they will gather more honey, go a greater distance, and protect their hive and combs from the ravages of the moth-worms much better than will brown bees, and this is no small matter in my locality.

Some claim that moth-worms never injure strong colonies of any kind of bees, but this is a mistake, for the combs will be injured, and hundreds of eggs, larvæ, and hatching brood, will sometimes be destroyed here by moth-worms in strong, thrifty colonies of brown bees.

Southern Minnesota.

Short-Cuts in Extracting Honey.

Read at the Wisconsin State Bee-Keepers' Convention, at Madison.

BY FRANK MINNICK.

SOLOMON says, in Ecclesiastes 1:9, "The thing that hath been it is that which shall be; and that which is done is that which shall be done; and there is no new thing under the sun." In passing through the historical rooms of our beautiful capitol some years ago, I saw the hand of an Egyptian mummy, and wondered if it had not wrought in accord with Solomon's words; or, in the words of the poet with a line of my own added,

"Perhaps this merry hand now pinioned fast,
Has hobnobbed with Pharaoh, glass to glass;
Or doffed his hat to let Queen Dido pass;"
Or handled Langstroth or similar hives, which are first-class.

But whatever may have been, or whatever of lost arts are buried in the sediment of the Nile, or wherever they may be, we are where we are. Historians look into the past, poets into the future, but we have to deal with the present, so let us get down to business.

Very often the shortest way across is the longest way around, but I wish to call to your minds a few of the short-cuts that I have discovered in reading a few works on bee-culture, and in the 20 short years that I have made bee-keeping a means of gaining a livelihood.

In the first place, it is very desirable that the bee-yard be laid out in such a way that the backs of the hives are toward each other, and the rows far enough apart to leave plenty of room for the "honey-carriage," and a space to work in where scarcely any bees are flying. It is also well to have the extracting-room lower than the yard, for one can wheel very much more down hill than up.

After handling many different sizes of combs I have settled down to what the "father of American bee-keep-

ing," our beloved and lamented Langstroth, considered the very best—his 10-frame hive, in brood and extracting departments. I have worked my winter repositories (which are cellars) into extracting-rooms, and they are very cool and pleasant on a hot summer day. I have discarded screen-doors and ventilate through screen-windows. Bees will not accumulate on a wooden door and rush in with you by the thousands to annoy.

Place the extractor on a platform from two to 4 feet high, and dig a pit so that the honey goes by gravity from the extractor through the strainer to the keg. My strainer-box is made after the Rambler pattern, which is a honey-tight box with a roller on both ends near the top. The cheese-cloth which I use for a strainer is rolled up on one end and stretched to the other, as it becomes clogged. It is rolled by means of a ratchet-wheel on each roller, held in place by a single spring extending from one wheel to the other. I have also a tin strainer above the cheese-cloth, which catches all the coarse stuff.

For an uncapping-can I use a 200-pound honey-keg with the head out. I take a clean sugar-barrel hoop, and bend and nail it together so it will drop down into the bottom of the keg; then make another one that will fit inside of the first one; place unpainted wire window-screen on the larger hoop, pressing the smaller one down into it, which when strengthened with a few pieces of lath makes a fine strainer for the uncapping-can; and a hole made in the bottom allows the honey to drain out.

For a frame to hold the comb while uncapping I use a strip across the top of the keg 1x2 inches with a nail driven through each end, between the hoop and stave, to hold it steady; but before I nail it down I drive an 8-penny wire-nail about 6 inches from one end from the upper side, for a point on which to hold the combs while uncapping. Now this point on which turns our fortune (or misfortune, I sometimes think) holds the frame at almost any angle desired without slipping, and I can reverse it. All these motions which are necessary in uncapping are accomplished with one hand without lifting the comb.

I know of no better uncapping-knife than the Bingham & Hetherington. I used to lay the knife on the strip on top of the keg with the handle projecting over the edge, but hereby hangs a tale. The one who uncaps is called the "shaver," and I was acting in that capacity one day, when, in handling a heavy, slippery comb I let it drop on the projecting handle, which caused it to jump at me like an animate thing; as poor as its aim was it made a "short cut" in my ear, and drew forth rich, royal blood. So now I drive a small nail part way into the end of the handle beside the shank, and hang it inside of the keg.

The Porter bee-escapes are a great invention. I try to get them on at least 24 hours before I wish to begin extracting, then usually I can go out and run the supers in like so many bricks. I try to have enough to keep us running all day, so I put the escapes on another lot immediately so that they will be ready to extract the next morning.

Now comes the work which is to me the pleasantest part of bee-keeping. With veil laid aside, sleeves rolled up, and my honey-kegs previously tested with boiling water, I am ready for a big day's run. As the combs are uncapped they are placed on the platform in a box with a tin bottom, from which an active, careful boy runs them through a Cowan extractor. The empty keg is placed on scales under the strainer-box, which will sink at the desired weight, and cause the honey-gate to close automatically, by means of a stick reaching to the honey-gate from the keg. The keg is quickly removed and replaced by another, and so the work goes merrily on, and I am content.

Shall Bees Be Taxed?—A New Yorker's Opinion.

BY FRIEDEMANN GREINER.

IT is my opinion that every patriotic person, and all good citizens, should be willing, nay, anxious, to pay their *just share* of taxation, bee-keepers included. If our patriotism makes us liberal only in the expenditure of money used for fire-crackers, beer and whiskey, that we might celebrate the anniversary of the Declaration of Independence worthily (?), or perhaps the victory of the Republican party, or any other political party, then our patriotism is not worth much, and leads us astray. If our patriotism does not prompt us to come forward with our treasures, our stored-up papers, mortgages and notes, and demand that we are justly taxed for all we possess, as a reciprocity act for the protection we enjoy, then we would better not make much ado about our patriotic feeling. I am sorry to say that a great many people, even those of high rank, try in every conceivable way to hide their possessions before the eyes of the assessors and tax-collectors.

I am not sure that taxation will ever be equitably adjusted. The situation to-day is practically about the same as in the many centuries gone before. History shows that the poor class, the people of little influence and means, were always controlled and oppressed by the strong and rich class, which in turn again gave rise to the so-called revolutions. In other words, the common people would endure about so much, but when the pressure became too great, then they kicked. Of course, we hope that a Christian spirit will so penetrate the heart of each individual, and the masses, that this earth will become more heaven-like, and that selfishness will be driven out; but much water will probably flow down the Rhine before we reach this state of things. Let this be as it may. I do not wish to sneak out and avoid being taxed on my bees. What I do object to is, to be picked out of the large number of wealth producers and owners as the only one to pay taxes. I am in favor of having all kinds of property taxed, have brains taxed, etc. We did not succeed in having a national income-tax law passed—it was declared unconstitutional. Let us try it again—it is a just and wise measure, just the same. Those that have shall give, ought to give!

If I am going to be taxed on my property am I not justifiable in demanding that my neighbors shall also be taxed on their property? To illustrate I wish to say: One of my neighbors has six fine horses; their market value is $600; nothing said of the single and double, light and heavy harnesses, wagons single and double, carriages, reapers, binders, etc; he has 20 head of cattle, their market value $500; then he has 100 sheep with a market value of $800 dollars; a herd of swine, valued at $100—all in all, his stock has a value of $2100. Let it be understood that at an open sale his stock would probably bring that amount of money, at least. But a few days ago I asked him how much tax he paid on this nice investment. Well, what do you think? Not *one red cent!*

I am a bee-keeper, principally. My stock of bees consists of 150 colonies. At an open sale they might bring $300, no more. Of course I would not sell them for that, not even for twice that amount. Besides the bees, I keep one horse and two cows, valued at $150, which concludes the list of my stock. In all it represents in value $450. So as not to be called unfair, I will put it at $700. Some years ago when the assessor came around he was much inclined to assess my bees (and I had but about 65 colonies at that time). Of course I objected. Pray, why should I be taxed on my $700 investment, while my wealthy neighbor is exempt on his $2100 stock investment?

When all other personal property is enlisted on the assessor's list and lawfully taxed, then I will cheerfully consent to have my bees listed, also I understand in some States, in particular in the South, a tax is levied on watches, pianos, other musical instruments, carriages and stock of all kinds. Of course, where this is the case bees should not escape.

But there is another standpoint from which taxation of bees may be viewed. The cane-sugar interest in the South, and the beet-sugar interest in the West and North, are fostered by the Government to such an extent that even a premium or subsidy is paid to sugar manufacturers on every pound of sugar produced. Honey is sugar. Why do we bee-keepers not receive a subsidy on the honey we produce? A great deal of honey goes to waste in the flowers year in and year out. It can not be said that all honey is gathered until there are about 10 colonies kept to every square mile. The honey, if left in the flowers, does no one any good. Uncle Sam ought to encourage bee-keeping, to the end that all this honey might be gathered and saved, instead of taxing bees out of existence.

And, finally, there are thousands and millions of blossoms that need fertilizing every year. Many fail to set fruit for lack of pollen-carriers. More bees, even if they gathered no honey for us, would be an advantage to the fruit interest in most localities, and *should be kept* for the sole purpose of fertilizing fruit-blossoms. For this service the bees ought to receive pay and protection, or rather the bee-keeper ought to receive from the Government a certain amount premium, say 50 cents, or more, for each colony kept, instead of being taxed for them. This idea is not a new one, by any means. The people of the middle age valued the service the honey-bees rendered, and did pay a premium for keeping them. I believe I mentioned this

fact several years ago in a longer article on the history of the bee.

Great interest in bee-keeping was manifested in a later age by that great king and statesman of Prussia, Frederick, living during the 18th century. His order was, that every minister of the gospel in his kingdom, every order of monks, and all monasteries, must keep a certain number of colonies of bees. Every renter of crown lands paying 150 thaler rent had to keep 10 colonies; those paying higher rent 20 colonies. For every colony less than that number five thaler penalty had to be paid. Each farmer (bauer) had to maintain an apiary of four colonies, from that number down to one colony, according to the number of acres of land he owned. Failing to meet these requirements, about 50 cents had to be paid for every colony not kept. On the other hand, *50 cents premium was paid for every colony kept, over and above the required number!* From this it will be seen that Frederick must have been convinced that bee-keeping offered many advantages, and produced great benefits. In this understanding he was far ahead of many of the leading statesmen of the present day, who can often see nothing but evil resulting from the keeping of bees, and desiring to rule them out and almost exterminate them.

Ontario Co., N. Y.

Artificial Swarming or Dividing for Increase.

BY C. P. DADANT.

CHARLES DADANT & SON:—I think I have seen somewhere that you practice artificial swarming, exclusively. Do you still think it best? and can you secure as much comb honey? It would certainly be much more convenient if as good results could be obtained.—D. C. ROBERTS, Colorado.

Yes, we practice artificial swarming exclusively, though we do not call it by that name. We call it "division of colonies," because it is not anything like swarming. True artificial swarming is done by removing a swarm with the queen in a forced way, either by drumming the bees out from one hive to another, as formerly practiced with the box-hives, or by shaking enough of the bees with the queen into a new hive.

I must say, however, that if we were practicing bee-culture for comb honey with the usual eight-frame hive, such as is recommended by many bee-keepers, we should be far from practicing artificial swarming, but would instead try to devise means to prevent the natural swarming in the limit of our power. From repeated acknowledgments of comb-honey producers who use small hives, I have concluded that this method of bee-keeping produced rather too much increase in ordinary seasons, and that the desideratum was a method by which less increase could be had.

By our methods, we produce extracted honey almost exclusively, with large hives, always supplied with a sufficient amount of empty comb to prevent the desire of swarming, except in extraordinary seasons. So when we desire increase, usually only in sufficient amount to make up for winter losses, in each apiary, we follow the artificial methods.

As to the production of as much honey with a colony that has been divided by any manner whatever, either natural or artificial, as with a colony in which all the bees remain at their post, that is out of the question. The bees that are taken away, or that leave with a swarm, go to making that swarm prosperous, they harvest honey for its brood, and for the building of its combs, and, while doing that, they surely can not be expected to produce surplus honey. But if you are in a location in which two crops may be expected, some six weeks or two months apart, and if the second crop is a very safe probability, then what you may lose in the first crop, by dividing, will perhaps be more than repaid by the product of the extra colony which you have brought into existence. You are exactly in the position of a man who is bringing up a family. While his children are small they are a strain upon his energy, for he must support them, educate them, train them to the duties of life; but when they are grown, they may prove a very great help instead of a drain upon his resources. If you begin the season with 25 colonies of bees and seek no increase, you may have a very fair crop, but if you double their numbers, though you will have no crop during the early summer, the fall crop will probably be double what it would have been had you depended upon the original number of colonies for your supply.

There are many methods of making divisions or artificial swarms. Nearly every writer describes his own plan, and they are all good, in a greater or less degree, if they follow the first principles of the trade—of leaving colonies queenless the least possible time.

With the new methods of queen-rearing, among which the Doolittle method stands conspicuous, it is not very difficult to rear queens from the very best mothers to supply all swarms made. Or, if this be thought too difficult, queens may be bought from reliable breeders, especially in the South, for a small price. Thus swarms may easily be supplied with very good, choice queens, and little time is lost.

The plan which we follow, and which proves the most economical, is to make our swarms, or take our increase, from the colonies which are not likely to give any surplus. This, of course, applies only to an apiary in which the colonies are not all intended for forced increase. If we must have increase at the exclusion of everything else, then let us use every colony of sufficient strength to further our purpose. But if we want an increase of say only one-third, we will aim to leave the most populous colonies intact, taking the brood and bees from colonies which have bred up too late to make a crop. This must not be understood to mean that every weak colony may be divided, for there are sometimes colonies of bees which fail to breed up, from divers causes, and which remain weak till after the honey harvest. These are of no value, and must be completely taken out of our reckoning.

But we have colonies of bees that breed up promptly and plentifully at the opening of spring, and begin the harvest with as full a force of field-workers as it is possible for them to have at any time. On the other hand, there are colonies which having been delayed in their breeding by different circumstances, are still quite prolific, and find themselves with a large amount of brood, but with less field-workers ready for the harvest. These, in other words, are behind-time for the harvest, and it is to them that we look for the supply of brood for our divisions. There is nothing lost in the way of a crop by dividing them, for they would only just begin to build in the boxes by the end of a harvest, and the brood and bees that they can furnish will give us quite a good many "swarms" that will have enough to make preparations for the second crop. Thus, if there is any chance for honey, our best colonies will harvest it, and the secondary ones will give us the increase.

But if we breed our own queens, no other considerations should deter us from using the very best colony for breeding the young queens. Prolificness and hardiness first, color and breed next, should be our standard. Gentleness is also a consideration. But if we breed mainly from pure Italians this quality will be a matter of course with every one of our best colonies.

A vigilant eye must be kept on the divisions. Until they show a good queen laying plentifully, and the combs are all built, they should not be left to their own devices more than a week at a time.

In this way only can we expect to succeed.

Hancock Co., Ill.

"Long-Tongued Bees—Fad or Fallacy, Which?"

BY E. R. ROOT.

ON page 293, I find an article by Mr. G. M. Doolittle under the above heading. "Of late years," says Mr. D., "some of our bee-papers start off with some new idea, or some old one revived, and in a little while the heads in all beedom seem to get twisted....which, a few years later, is dropped, with hundreds and thousands of hard-earned dollars wasted over the hobby or fad."

A thousand dollars—that's a big sum; and thousands of dollars—that's bigger yet. I do not recall any fads that have been dropped that have cost anywhere near such sums. Reversible frames? We sold, perhaps, more than any one else; and yet we did not sell, all told, $300 worth of them. Self-hivers? We sold about $10 worth. But we must have some failure fads in order to get those that are a success.

Did Mr. Doolittle never ride a hobby, or push a fad? Well, let's see. Did he not champion wide frames for sections about 17 years ago? And now they are used by very few, including Doolittle. Was he not one of the very first who started the fad for tall sections? Did any one waste thousands of hard-earned dollars on them? I can not recall one. He started the fad for rearing queen-cups, and a very good fad it was. Did any one waste any hard-earned dollars over that? But the fad may be dropped for drone-comb queen-cups. He helped boom, years ago, in his pamphlet, "The Hive I Use," the Gallup hive; and some of his followers, as I happen to know, wished afterward they had not followed him, because they had on their hands

a lot of odd-sized hives. But now Mr. Doolittle says the Langstroth is just as good as the Gallup, and has the advantage of being regular.

And that reminds me that Mr. D. has decried other fads which he has since adopted. He condemned, for instance, thick top-bars, on the ground that he wanted burr-combs as "ladders" to enable the bees to climb up into the supers; and now he is recommending thick top-bars! If I mistake not, he once protested against the introduction of comb foundation, but is now using it, and sanctions its use. Prominently among those who pushed the fad for yellow or five-banded bees was Mr. Doolittle. If there is any fad that has cost bee-keepers a few dollars (not thousands), and for which there may have been little or no return in honey, it was the rage for golden Italians; and Mr. Doolittle is still pushing them, if I mistake not. I do not say there is anything wrong in selling them. If one wishes beauty, he has a right to pay for it, and the breeder to sell it; but when Mr. Doolittle condemns others for pushing the fad of long-tongued bees—bees that give a promise of bringing in more honey—he should not forget that there may be others who may be equally honest in advertising and selling long-reach bees.

He apparently questions the propriety of charging $10, $15, or $20, for queens. If so, it is wrong for him, but perhaps in a lesser degree, to charge $5.00 for his best queens. It may be that no single bee is worth $25. I have no quarrel with any one who so thinks. I know this: We refused an offer of $25 for a daughter of our best breeder. If it is right to sell stallions, Jersey bulls, dogs, and roosters of high blood, at big prices, is it awfully wicked to sell queen-bees at ten and twenty-five dollars? Certainly not; for Mr. D. has said that the queen is the pivotal center of the colony; and in the same way an *extra-good* queen is the pivotal center of a whole apiary.

He quotes Stenog, in "Pickings," as saying that no one claims that the long-tongued bees would be any better except on red clover, and then goes on to say if this is correct "then these long-tongued bees are of no special advantage to me nor to two-thirds of the acreage of North America." *I* never claimed that the long-tongue bees would be useful on red clover alone. The fact is, there are other honey-plants that have deep corrolla-tubes. I refer especially to the *Compositæ* family. Then there are certain corrolla-tubes in the heads of alsike that are too long for the bees to reach to the bottom; and there are certain tubes of even white clover that are somewhat long for the tongue-reach of the average bee. If there are other honey-plants that have deep corrolla-tubes, then practically all of Mr. Doolittle's argument falls to the ground. He certainly knows that the flora of different localities of the United States is decidedly different, especially in the South; and he must not judge the whole United States by the vicinity in and around his place of residence in Onondaga County, N. Y.

He says, further, that he finds breeders in the extreme Southern States, such as Florida and Texas, advertising long-tongued queens, "just as if those long tongues were a great desideratum for that Southern country." Why, Mr. Doolittle, don't you know that most of the Southern-bred queens are sold in the North? Can't you see, for instance, how a manufacturer of stump-pulling machines, located on the prairies of Illinois, might sell such machines in localities in other States where such machinery would be in demand?

The quotations Mr. Doolittle makes are, I find, from one of Mr. Hutchinson's advertisements, from some of my own writings, and from a statement or two in the American Bee Journal. Right on the heels of these he says: "To give misleading statements, or those that are actually false, is something that our bee-papers of the present day should not stoop to do—not even when the motive of gain prompts the advertisers." Why, Mr. Doolittle, is it possible that Mr. Hutchinson, the editors of some of the other bee-papers, and all these other brethren whom you have quoted, are putting out "statements"...."that are actually false," and "stooping" to unfair methods simply for "gain?" I can not think you believe that. They may be misled; they may be mistaken; they may be wrong in their opinions; but falsifiers for gain, never.

You say there are times when it is necessary to "call a halt." I partly agree with you; but it seems to me, Mr. Doolittle, in view of what I published on page 295 of Gleanings, that you are somewhat late in the day. After making all those quotations, and putting them in such a way as to leave the impression before the average reader that those of us who sold long-tongued stock had quite lost our heads, you might, in all fairness, have given other quotations from the same writers that hold up the danger-signals. For example, on page 295 of April 1st Gleanings, I said:

"There is danger that many who get queens of this blood (long-tongue) will be disappointed, and in the end the whole business be condemned....It is only proper to sound a note of warning....We are not positively sure that the amount of honey a colony will gather is in direct proportion to the length of the tongues of its bees....In any case, let us not lose our heads."

Again, on page 401 I published something more in the same line. I did not give these editorials because I thought it was necessary to call a "halt," but only to draw attention to certain phases of the question that were liable to abuse, and to prevent, if possible, probable disappointment.

In conclusion, let us bear in mind these facts: That red clover is not the only plant, by any means, that has long nectar-tubes. Second, that, if we succeed in getting long-tongue stock, we shall have bees that will get more honey out of alsike, as well as more honey out of red clover. During the seasons of heavy rains, when the clovers have a stocky, vigorous growth, I have seen the corrolla-tubes of alsike as long as the tubes in ordinary red clover in common seasons, and I have seen the nectar-tubes of white clover—that is, the longest of them—too deep for the average bees to reach the bottom of.

I desire to say that I believe Mr. Doolittle is honest in his position; but he has allowed his prejudices to warp his judgment, I fear. I bear no ill will toward him, and hope he does not toward me.

No. 5.—Practical Lessons for Beginners in Bee-Culture.

BY J. D. GEHRING.

(Continued from page 295.)

"Now, Mr. Bond," I said, after returning with him to the hive chosen as our object lesson, "right here is a practical illustration of what may be accomplished in the direction of success in bee-culture. This colony has done wonders so far this season. In fact, it has stood first-rank ever since I first started it with its present queen.

"Bee-books tell us that a queen should be superseded the third or fourth year, because at that age queens begin to decline in egg-laying power. I have seen this seemingly orthodox deliverance asserted, re-asserted, and elaborated in the bee-papers by bee-keepers whose orthodoxy one would scarcely venture to call in question. But neither bee text-books, bee-papers, nor leaders in bee-culture, are entirely reliable in all things; owing, however, to the fact that many things come to our notice by practical experience and observation, as we pursue each his own theory or plan, that are unique in the sense of being new, or without precedent. My experience with this colony for three years proves that this assertion, which may seem to some like an unjust aspersion, is neither rash nor egotistical.

"Well, to illustrate: I took from this hive, this morning before you came, four supers of 28 one-pound sections each, all well-filled and beautifully finished, and nearly as white as snow. The fifth super—the one I took off a little while ago—is also full of honey; but, as the sections are not all sealed over, I leave it on the hive until the bees complete their work in it. But, in order to provide honey-storing room for them I shall give them a fresh super directly.

"Now, you see, here is a honey-yield from this one colony of five supers, or 140 pounds—all white clover honey. And, the white clover yet being in fairly good condition, there is a prospect of at least one more super being filled and finished; making six in all. Then there is the late honey to come in yet, from which they may fill another super for me, and store from 30 to 40 pounds for themselves to winter on."

"Excuse me, Mr. Gehring, for expressing my opinion, but that's about the fishiest honey-story I have ever heard."

Mr. Bond was leaning against the apple-tree under which was the champion colony when he made this slangy remark. When I turned to look at him in order to interpret, if possible, the expression of his face, I saw that he had removed his bee-veil, with his hat, and was I thought rather nervously—mopping his jovial face with his red pocket handkerchief. It was evident that he had quite forgotten his previous precautions against danger. There were no angry bees about just then, however, for I had not yet opened the hive, but was standing near it with my

frame-prying instrument—an old chisel—in one hand, and smoker in the other. I saw a merry twinkle in my friend's blue eyes, but otherwise he looked supremely unconscious of having said anything at all funny or improper.

"Mr. Bond," I said, "I don't blame you for making that remark. But my family and one or two of my neighbors know that what I have stated is true. Besides, here is another evidence—come here and see."

Mr. Bond hastily replaced his hat and readjusted his bee-veil before he complied. I then said, pointing to a card which was tacked to the inside of the cover of the hive: "On that card, Mr. Bond, you can read a complete record of this colony up to date, from the time it was put into winter quarters. At the top end of the card you see the figure 4, which denotes the number of the colony."

"Why don't you put the number on the front of the outside?" queried Mr. Bond.

"Because I think it is better to number the colony instead of the hive," I replied. "When a certain number is once painted on the outside of a hive I can't very well change it to another number, though I may have the best of reasons for wishing to do so. I know of excellent bee-keepers who do paint the number on the outside of the hive, and they have the right so to do. But I think a better way would be—if they must have the number on the outside—to tack pieces of tin with the numbers painted on them on the front of the hive; then it would be easy to change them from one hive to any other when occasion required it."

"Your idea looks reasonable and sensible to me," remarked Mr. Bond. "But," he continued, "will you please tell me what kind of an occasion would require the change you speak of?"

"One such occasion would be, when the colony casts a swarm," I answered. "Take, for illustration, the swarm we have just hived. The hive it came from is numbered 9, on the card inside the cover. That number designated the colony, or more correctly, the queen. But the colony left the parent hive, and the queen went with it; hence, I take the record-card from the old hive and tack it inside the cover of the hive the swarm is in. In that way I keep track of the mother-queen as long as she lives, without confusion, and with the least possible trouble. But there is another reason why I transfer the number from the old to the new hive, which I shall explain when we get back to it to look after that drone-brood, and to do one or two other things that will be found necessary, I think, within a week—I don't think we can more than finish the lesson I have for you here this afternoon."

"Why, you don't intend to keep me here till dark, do you?" anxiously inquired Mr. Bond.

"No," I answered. "And that is just the reason why we can't finish the lesson to-day. You see, I make it a rule in my apiary-work never to molest my bees, in any way, after sunset."

"That's queer," remarked Mr. Bond; "I had a notion the night-time was the best to monkey with bees. My father thought so, I'm sure, for he never touched a hive during the day, except to hive a swarm."

"That merely proves that you and your father knew nothing about the nature and habits of bees," I replied. "I know lots of people who think a cloudy day is a better time than a sunshiny day, and a rainy day the best of all days to 'monkey with their bees,' as you style it. Well, they are all wrong; and for the same reason just stated.

"The fact is, Mr. Bond, the very best time that can be chosen when any kind of a tedious or complicated job is to be done in the apiary—such as putting on or taking off supers, looking for queens or drone-brood, or exchanging and interchanging brood-frames—is between sunrise and noon on a clear, warm day. The bees are then nearly all busy at their work—a large number of the workers out in the fields. Hence, there are less stings and less labor for the manipulator, and less annoyance for the bees. There is only one exception to this, when regarded as a standard rule, and that is, in the case of robbing going on in the apiary. In that case all regular work among the hives must be suspended until the fracas is settled, and everything is restored to its normal state in the apiary. I will tell you more about robbing and robbers some other time. We must hurry and attend to the lesson in hand.

"Well, you can see that this record-card indicates the age of the queen, and that she is full-blood Italian. It also shows that she is "clipped."

"'Clipped?'" queried Mr. Bond, doubt and wonder in the tone of his voice as he spoke the word. "I don't understand what you mean by that."

"I suppose you don't," I replied, "but I haven't time just now to explain. Besides, should I proceed to do so I would probably forget where I am in the course of our lesson.

"Well, the next thing the card shows is the interesting fact that the colony had sealed brood on several frames in February; and the next, that it cast a large swarm April 12; and the next, that before the end of the month the colony was doubled up"—

"What's that?" interrupted Mr. Bond, eagerly, coming a step nearer.

"Never mind now, Mr. Bond; it's quite a little story, and a very important thing to know—but I'll have to put you off for a full explanation because it's getting late.

"What I am trying to get at in an orderly way is that proof which I mentioned concerning the honey-yield from this hive. But first—lest you lose a part of the lesson this card teaches—notice, please, the next items on record:

"'April 20: Storing white-clover honey in the frames.' Following that item you see here a record of dates when the five supers were put on, successively.

"Another thing: Please notice there is a little card on this end of this super"—directing Mr. Bond's attention to the super which I was preparing to remove from the hive when the swarm interrupted us.

"Well, on this card, as you see, is the number of the colony; and next, the number of the super in the order it was placed on the hive. The other four standing in the honey-house are marked in the same manner as this.

"This is the special proof I wanted to direct your attention to in order to satisfy you that bees can, and do, perform wonders in honey-gathering when they have a first-class chance."

"What do you call a first-class chance?" inquired Mr. Bond.

"Now, you've asked a hard question," I replied. "A hard question in the sense that a full, comprehensive answer would cover nearly the whole range of successful bee-culture. I can, therefore, give you only a crumb, as it were, of the whole loaf:

"One factor in the first-class chance, in this particular case, was, an uncommonly rich growth of white clover, yielding nectar very profusely and continuously for a long time. And another, plenty of young bees in the hive to gather it; in this case not less than 40,000 before April 12, and thousands more crawling out of their cells every day.

"But the bee-keeper also has a share in the first-class-chance program, if he knows his business and attends to it, and that is, he must know exactly when to give the colony supers; and he must watch very closely to be sure that they never lack honey-storing room above the brood-chamber while the honey-flow is on.

"These are, I think, the main points. But numerous other things are important also, which, if ignored, or neglected, or not recognized, will cut an astoundingly large hole in the honey crop, whether the crop is from one or 50 colonies."

"Do you put all the supers, needed by a colony, on at once?"

"I glanced at my friend sharply, when he asked this question, to see whether he was in earnest or in fun. Satisfied that he meant it seriously, I answered:

"No, indeed, Mr. Bond. I put one on first. When that is about full, and I see that the bees are sealing the sections over, I take it off and put an empty one in its place, replacing the full one by putting it on top of the other. Thus I continue to put on supers as needed, Mr. Bond."

(To be continued.)

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Perhaps in a Starving Condition.

I have wintered my bees all right, but I have noticed for several mornings that the full grown young bees come out until the ground in front of the hives is covered with them; and they won't go back to the hive, but crawl around until they die away. These bees must either come out at night or very early in the morning. ILLINOIS.

ANSWER.—It is possible your bees are in a starving condition. If you find no stores in the hive, feed at once. Sometimes a colony swarms out in spring because short of stores or for some other reason, and if the queen does not go with them they return to the hive leaving the young bees crawling about on the ground. The most you can do is to see that they have stores, and keep the hive as warm as possible by shutting up any cracks and allowing entrance for only a few bees at a time.

Carrying Queen-Cells a Distance.

Can queen-cells one or two days before hatching be taken three or four miles if left on the comb? Have you ever tried this? ILLINOIS.

ANSWER.—Yes, I have tried it successfully a number of times. I have taken to an out-apiary a queenless colony with a good queen-cell on each frame, put each frame with its adhering bees in an empty hive as a starter for a nucleus, and obtained good queens thereby. I suppose, however, you mean to take the queen-cell without bees. That I have also done occasionally with success. The cell should be well advanced, and must be kept warm and not subjected to severe jarring. Pack in cotton in a little box, and carry the box in the vest pocket or some pocket close to the body so it will not chill.

Poisoning a Neighbor's Bees a Crime.

1. When I cook and prepare poison like Bordeaux mixture, etc., for my plants and shrubs on my own property, and my neighbor's bees come and eat it, and are killed thereby, can I get into trouble for it?

2. When my neighbor's bees come and rob mine, kill them and take their honey, and I in a chemical way kill the robber-bees on my own property, is there anything wrong in it when I thus protect my property? ILLINOIS.

ANSWERS.—1. The man that cooks poison that his neighbor's bees may get is cooking trouble for himself, most decidedly. The idea that a man can do wrong to others just because on his own property is a pernicious mistake. If a man comes on my property that I don't want there, he has no business there, and I may order him off; but if I shoot him because he doesn't go I'm sure to get into trouble. Still more have I no right to destroy my neighbor's bees when they come on my property, for bees have a right wherever they can fly, and if I put poison where they will take it I am responsible. There is, however, no danger in spraying plants and shrubs unless they are in bloom, and an intelligent man will understand that it is of no use but a harm to the plants to spray at that time. When not in bloom, there is no danger to the bees, because the bees visit the plants only when in bloom. Of course if the poison were sweetened the bees would visit them any time, but the sweetening would be of no use to the plants, and a man that would sweeten the poison for the sake of poisoning the bees ought to suffer the full penalty of the law.

2. Most assuredly there would be great wrong in it. If your bees come to rob my bees, it is not your business to keep them away, but it is my business to manage my bees so that no other bees will rob them. If I leave honey standing around so as to start robbing, then I am to blame and have done a wrong to myself and to you. If I have weak or queenless colonies, I must protect them or unite them, so robbers will not trouble them. Set it down as a fixed principle that if I allow your bees to rob mine, I am the one to blame, and it is a damage to you to get your bees in the way of robbing, and if I then try to poison your bees I am stooping to so mean a thing that the law ought to handle me pretty roughly.

Extracting Propolis.

I have quite an amount of propolis scrapings on hand. What is the best way to extract or melt it?

WISCONSIN.

ANSWER.—I suppose your object is to get the beeswax out of it. I'm not sure I know the best way. I once took a dripping-pan filled with it, put it in the oven of the cook-stove, and when all was heated for some time poured or dipped off the wax. Possibly if water was added before heating, the wax would rise to the surface and the propolis sink to the bottom. Then when cold it would be easy to lift off the wax.

Simpson Honey-Plant in Kansas.

Would the Simpson honey-plant do any good in this dry climate? The cleome does well here. KANSAS.

ANSWER.—Very likely it will grow well enough, but it would be worth while to sow it in waste places only. It is probably not held by any one now that it would pay to occupy tillable land with it.

Management for Increase.

I have six colonies of bees which I want to increase to nine, and not allow them to swarm. Three are black and three are Italians, and I want to increase the Italians. My plan is this: Drive the bees with their queen from the Italian hives to new hives with full sheets of foundation, and place on the old stand, and place the old hive in the place of one of the black colonies, removing the colony of black bees to a new place. Do you think this is a good plan for dividing? Do you think it will keep them from swarming? MINNESOTA.

ANSWER.—Yes, the plan will work. The change should not be made late in the day, lest so few bees enter the hive of brood that it be chilled. Do it early in the day, or still better at the time the bees are out for a play-spell. It would, of course, be better if you could give a queen or queen-cell to the queenless hive, for only field-bees are there, and they are not the best to rear a queen. If moved, however, at time of play-spell, there will be some young bees. If done early in the season (and it would not do to wait late for fear of swarming) there is danger that the removed black colony will soon become strong again and swarm. It will help to prevent this if at the time of removal you shake off into the queenless hive all the bees from three or four frames. If you leave them to rear their own queen, these young bees will be an advantage in that regard. But there may be danger of swarming from the queenless hive when the cells mature, so you might cut out all cells but one.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

The Chicago Convention Picture is a fine one. It is nearly 8x10 inches in size, mounted on heavy cardboard 10x12 inches. It is, we believe, the largest group of bee-keepers ever taken in one picture. It is sent, postpaid, for 75 cents; or we can send the American Bee Journal one year and the picture—both for $1.60. It would be a nice picture to frame. We have not counted them, but think there are nearly 200 bee-keepers shown.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

ACTIONS OF BEES AT SWARMING-TIME.

And so B. Ginner wants to know if bees pile up in front of a swarming hive in weight enough to touch off a mechanical arrangement to sound an alarm. Bees have forty different ways of swarming. I should not be *surprised* to see several ounces clung together on the ground in front; but once in fifty times would be sufficient to expect it, I think. Usually the downy young bees very recently emerged are mostly swept out in the rush; and many of them crawl around awhile before they can get the use of their wings. Machinery would have to be made pretty delicate to spring with their weight; but I guess the thing is possible. If B. G. will rig a second entrance somewhere about his hive (say in the rear end of the bottom-board), I think he can get all the power he needs by means of it. The idea is to have a long crack there almost wide enough to let out bees, but not quite, and a swinging gate on which the joint push of several dozen bees could be utilized. At ordinary times a bee doesn't want to get out except at the habitual place; but in the usual forms of swarming the sentiment seems to be any way to get out, or any where. Page 283.

THE LAYING CAPACITY OF QUEENS.

That Langstroth experiment on page 248, where queens are made to drop eggs on a black cloth—"some thirty, some sixty, and some a hundred fold," and the colonies turn out accordingly three months later—it is striking and instructive; yet there is danger of predicating far too much upon it. The queen that dropped only one egg may have been just as good a queen as the one that dropped twenty. It is not only possible, but probable, that each of the queens, with the exception of the first, was laying at just about the rate that the workers were able to care for the eggs. If I am right, no queen (in the season) will lay much in advance of the wishes of the workers. Far be it from me to wish to nullify all the conclusions of the paper referred to. Two things remain after we have made all proper allowances: Some queens will not keep up with the reasonable requirements of a fair colony. To supersede them is of course just the proper thing to do; only don't make mistakes about the facts. The other thing is that some few queens will keep up with the requirements of an immense colony in which most queens would fall far short. These presumably are of extra value; but their phenomenal laying exhausts them quickly, and they are not likely to last long.

BEES AND FRUIT-BLOOM FERTILIZATION.

Anent the articles of Thaddeus Smith, on pages 262 and 280, denying fruit-fertilization by bees—we can make believe we are Boers, and he can be a Britisher without making believe; and thus we will have a splendid chance to learn courtesy and fair conduct toward adversaries. He's right that pretty much all that class of experiments are *inconclusive* in which boughs or trees have been covered with fine netting. In thus preventing insect pollenization other modes of pollenization are also hindered, if not prevented altogether. Our folks must mend this defect and experiment some more. Apparently neither himself nor his friend are well posted in insect lore. We greatly need a skilled entomologist turned loose in May among the islands of Lake Erie. Quite possibly he would see with half an eye that the sheltered location keeps off predatory insects, and that nectar-loving insects are abnormally thick there. Moreover, from climatic and other causes, these islands are among the choicest spots on the globe for fruit-culture. The excellence of results without bees does not show all it seems to. Still, a chance for some competent and friendly hand to show how much better results can be attained *with* bees. And let us watch the present strawberry bloom, and see how many of us can "pink him" on his reckless assertion (page 280) that the blossoms of pistillate strawberries do not secrete nectar. Look for bees, of course, but especially look for *very small* insects.

HEALTH AND BED-CLOTHING.

On pages 248, 249, Prof. Cook has a splendid article on the health of the dear ones at home. I will not attempt to say over again his good precepts, but rather (as possibly is too much my habit of late) "mouse" to see if I can't find a little heresy somewhere. He advocates plenty of bed-clothing—he's right—but then there stands unmentioned the very prevalent evil of *too much* bed-clothing. Are we not getting somewhere near the bounds of heresy when we ignore such an evil—as if we should say, Folks ought to eat plenty of food, and not waste too much time about it? It's half in vain to have pure air outside the "kiver" if underneath, next to our persons, the air is thick with excreted gases and thin of oxygen. And that's the state of things which must exist with unnecessary sheets of cotton-batting over us. And is not the result a torpid skin—almost as bad as weak lungs? Or, am I wrong about this whole business?

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

Because You Keep in Tune.

There is a harmony that runs thro' all God's works of love.
It rises thro' the hum of earth to join the choirs above:
And if your heart desires a part, morning and eve and noon.
In the wide chorus, sing your best, and always keep in tune.

The voices close beside your ear may grate discordantly.
And sometimes all the world around seems to be out of key.
But hold the note you know is true, sing clear and sweet, and soon
Others will join the melody because you keep in tune.

—PRISCILLA LEONARD.

SUCCEEDING BY READING.

I am sure we are all glad that Mr. Hutchinson visited the Coggshalls, and gave us the beautiful pen-picture of their home. The remark of W. L. Coggshall to Mr. Hutchinson is so pregnant with sense and truth that I wish to take it as a text on this occasion. "The man who reads is the man who succeeds."

I have always remembered something I read of Beecher's years ago: "Show me a man's library, and tell me of the company he keeps, and I will tell you the man's character." It has often been remarked that we owe our civilization to the discovery of the printing-press. Sure it is that without the stored-up wisdom which we have in the blessed books that grace our homes, our progress would be very much less rapid. I think I said in a previous number of these "Home Circle" papers that I wished I was able to put the Youth's Companion into every home in our country.

I have also said that there were three things I would strive to develop in the child from the very first—as soon as he could lisp "papa" or I could make him understand my wishes—"truthfulness, self-control, system." I wish to add now that I would also strive to interest the child in reading, good reading, from the very earliest moment. The little nursery magazine should be among the child's first possessions, as soon as it can enjoy pictures or tingle with pleasure at the story. This should be followed by Saint Nicholas and the Youth's Companion. Of course, the child can not read these at first, but how delightful it is for father and mother to sandwich in the Sunday walk between the talks and readings on Sunday, and surely a little time each week-day can not be better spent by either parent than by giving it to the children with some good book or paper as the third party. If we commence thus early, I think there will be rarely any difficulty in interesting any child of ordinary intelligence in the child book or paper. In case the child does show indifference, the parents should tax invention till they succeed.

I know of one little boy who was quite a trouble to his parents in his very early years by a discouraging indifference to book and paper. He would enjoy their reading to him but was very slow to read for himself. A visit to some little friends who possessed a menagerie of white mice, interested the boy greatly, and nothing would do but that he must have like pets. The parents, of course, were interested in his desire and suggested that he find out where he could buy them, what they would cost, and suitable cages or homes for the little rodents, when they should once be secured. The result was that the little fellow hunted the papers over for advertisements regarding white mice. The parents seeing

here an opportunity at once secured the papers which treated of pet stock and were delighted to note that not merely the advertisements but everything about the prospective pets was not only scanned but thoroughly read. The pets came, were housed according to the latest rules and improvements, and were for a little a great pleasure. They soon, however, lost their attractiveness, but the taste for reading commenced in the scanning for advertisements, ever remained. These parents never see white mice but they feel grateful for their share in the development of a taste for reading which has ever been of inestimable value to their boy.

Mr. Coggshall's implied reason for reading—that it brings success—is certainly one not to be neglected. We all remember "Sedan" and the speedy undoing of Louis Napoleon. I have seen it often stated that the greater intelligence of the German army explained the quick conclusion of that momentous conflict between the two great nations.

I have been greatly impressed as I have visited among our farmers, not only in Southern California, but also in the East, to note how the best success in the field and orchard always goes hand in hand with a good library and numerous excellent papers in the home. It is true that in the past, frugality, native sense, and a close attention to business, would often bring success even to the unlettered. But that day is becoming a thing of the past. Competition is rapidly crowding the weakling to the wall. This is becoming as true in agriculture as in other lines of business. Very soon the man that succeeds must know the best and practice it. He must be fully up to the times. To do this, he must possess the books and papers, and must be a close reader of the same. What has given such sections as Western New York, Northern Ohio, Michigan, all of New England, their supremacy in the way of progress and advancement? Unquestionably it came from the fact that they were preeminently a reading people. The home-table gave to the home circle the best of books and magazines and such papers as The Country Gentleman, Rural New Yorker, and American Bee Journal took no second place among the literary works in these homes.

In speaking to our people of Southern California, I often hold up one hand with fingers and thumb extended and explain upon five things of which, we of this State, have great reason to be grateful: Our mountains, our wondrous climate, our incomparable fruit, our pure water right from the mountain rocks, and last and best of all, our splendid people. Visitors from the East often remark upon the splendid cultivation which they note in the orchards of our Southern California. They often say there is nothing to compare with it in the East. If they should look in upon the home circle of an evening, they would make the more interesting discovery that this intensive culture was not alone characteristic of the orchard work, but was equally true in the mind-field. I have heard it said that every one reads in our Southern California homes. While very likely this is an exaggeration, it certainly is true that ours is a reading community, and is destined to become entirely so. The man who does not read must catch the habit or move out. This is a kind of blessed leaven, and every community may well pray that it be brought in liberal gauge to their "home circles."

But the business advantage is by no means all that comes from this habit of reading. We not only need men who know the details of their work, but we also stand in pressing need of men with broad views, men who grasp the right relations of things, men who have broad sympathies, that go beyond neighborhood, State, or even country. With what pride and gratitude we have all noted and followed the course of Mr. Hay, our Secretary of State, as he has managed the intricate problems of our recent international affairs. We would not have been so honored if he had not been a man of widest view and broadest sympathy. In this case the whole world is to feel the influence and receive an uplift because of the wide-reaching stretch of a single mind. It goes without saying that Mr. Hay could not have taken the proud place which he occupies except for the fact that he was a man of widest reading. His culture stopped not with his home affairs, but he shows that he understands the temper and relations of the various other nations even better than they understand each other. It is, then, one of the best uses that we derive from wide reading, that our view is broadened and we are not disturbed by the petty things of life, but are able to grasp the right meaning of the great events, and so are able to plan and work for the greatest good of all.

Every right-minded person loves companionship. Even the dear Master, in those bitter hours in the garden, was sorrowful when the disciples fell asleep and could not watch with him in that terrible hour. I never see a good man or a good woman treading life's pathway alone that I do not feel sorrowful, and wish that a better fortune had granted to them the dear companionship which is the brightest crown of the best home circle. Even the most favored of us can not always have our loved ones about us. Death, cruel circumstance, often forces separation whether we would or not. Then it is that the book comes as a very angel of mercy. Who of us has not driven loneliness from our homes and hearts at least by a short-lived forgetfulness as we have chosen for our companion the treasured words of some great author? That greatest and best-loved American—Abraham Lincoln—it is reported, had but two books in the long preparatory days of youth—the Bible and Shakespeare. Yet what good use he made of them. The one made him companion of many of the greatest minds and greatest hearts that ever blessed the world; yea, it did better than this, it gave him a heart that reached out even to the most lowly of God's people and was ever alive to the needs and sufferings of those about him. Except for reading, and these two great teachers, who were such good companions during the long, prosaic days of Lincoln's boyhood, we should have been poor indeed, for we should not have had Abraham Lincoln to put the superlative gilding upon the pages of our nation's history.

The ability to entertain one's self, and to be happy even though all our friends depart from us, is certainly one to be treasured among the best of our possessions. A library full of the masterpieces of literature, and a taste and desire to seek out the best they have for us, will do more than aught else in the world to drive ennui and the gloom of loneliness from the one whom bitter fortune has separated from the loved ones. It is a problem, and no less a puzzle, to many of us to know how to keep the children interested in the home, that they may not know of the evil or be enticed by the sinfulness that the street and even worse places are ever reaching out to lure the precious children into ways that lead to death.

I have two habits of mind for which I have never ceased to be grateful. I think I am mostly indebted to my mother for them. She was the mother of a large household, and the cares incident to her life, minding as she did not only the household, but butter and cheese making, and often the care of the yard, made her life, I think, one of the fullest that I ever knew. Mother loved books and nature. She was never so busy that she could not get a little time each day to read, and, as I look back, it seems to me one of her best pleasures was in reading with us children, or going out to interest us in some insect or flower that seemed peculiarly interesting and beautiful. The result of all this was not only to make mother the dearest companion of my childhood, but such a love of books and reading that I never find the time to drag heavily, or the days or hours to last too long.

I remember once, a few summers ago, I was dropped at Yucca, one of the most desert places of our great mid-continent desert. Numerous others were alike unfortunate. I think I never knew more yawning in a single day or more complaint against fortune. Yet it was one of the most interesting days that I ever spent. A book, describing the natural history of the country and the numerous object-lessons right at my feet which vividly illustrated the word-picture of the book, made the day all too short. It was with regret that I greeted the evening and the coming train that was to bear me away.

The greatest good from books, is the soul uplift, for this is immortal. Space permits me only to mention it here.

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once, if you want a copy of this song.

The Premiums offered this week are well worth working for. Look at them.

QUEENS!

Improved Golden and Leather-colored Italians are what **H. G. QUIRIN** rears.

We have one of Root's best long-tongued **Red-Clover Breeders** from their $200 queen, and a Golden Breeder from Doulittle, who says if there is a **BREEDER** of golden bees in the U. S. worth $100, this one is worth that sum. The above breeders have been added to our already improved strain of queens for the coming season.

J. L. Gandy, of Humboldt, Nebr., wrote us on Aug. 5th, 1900, saying that the colony having one of our queens had already stored over **400** pounds of honey (mostly comb); he states that he is certain that our bees work on **Red Clover**, as they were the only kind in his locality and apiary.

A. I. Root's folks say that our queens are extra fine, while the editor of the American Bee Journal tells us that he has good reports from our queens from time to time. We have files upon files of unsolicited testimonials.

After considering the above evidence, need you wonder why our orders have increased each year? Give us a trial order and be pleased. We have years of experience in mailing and rearing queens. Safe delivery will be guaranteed, and instructions for introducing sent with each lot of queens.

QUEENS NOW READY TO MAIL.
Prices before July 1st:

	1	6	12
Warranted stock	$ .75	$ 4.25	$ 8.00
Selected warranted	1.00	5.00	9.50
Tested	1.50	8.00	15.00
Selected tested	2.00	10 50	
Extra selected tested, the best that money can buy,	4.00		

Folding Cartons, with your address printed on in two colors, $4.00 per 1,000; $00 for $2.75.
Address all orders to

H. G. QUIRIN, Parkertown, Ohio.
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By contract this ad. will appear twice per month only. 14E13t

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High Grade of Italian Queens

Or a CHOICE STRAWBERRY?

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Dear Sir:—Your quotations on 48 untested Italian Queens, ready for delivery by May 18, 1901, at hand. It being the first offer out of several inquiries, and, besides, you having promptly favored me with queens last year, you may, in appreciation thereof, have the order.

Yours truly, L. KREUTZINGER.

Prices for May and June:

Number of Queens	1	6	12
GOLDEN QUEENS.			
Untested	$1.00	$ 5.00	$ 9.00
Tested	1.25	7.00	11.00
Select Tested	2.00	10.00	17 00
Breeders	5.00		
HONEY QUEENS.			
Untested	$1.00	$5.00	$ 9.00
Tested	1.25	7.00	11.00
Select Tested	1.50	8.00	13.00

Safe arrival guaranteed. Descriptive price-list free.

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Northern Italian Queens!

Reared from Imported Mothers.

Our stock is so carefully bred and selected, as to secure car-loads of honey. Locality free from foul brood and other bee diseases. Prices: 1 untested Queen, $1.00, 6 for $5.00; 1 tested Queen, $1.50, 6 for $7.50; best imported Queens, $2.00; fair imported, $5.00.

ADA L. PICKARD,
18E7t RICHLAND CENTER, WIS.
Please mention Bee Journal when writing.

GENERAL ITEMS

A Report from Nebraska.

I have 8 colonies of bees which I wintered on the summer stands without any loss. They were packed with fine prairie hay, with a shed over them which opened to the south. The bees are not as strong as they usually are at this time of the year, but we have a fine fruit-bloom, and the bees are beginning to hustle, so I think they will be in good condition for heartsease, which commences to bloom in July. DAN N. HASKIN.

Lancaster Co., Neb., May 12.

Loss 15 Percent—"The Home Circle."

My bees came out of the cellar in the poorest condition they ever did, my loss being about 15 percent when it usually is about 2 percent. The cause of loss was short stores and mould.

I now have 49 colonies all in good condition, but I fear we are going to have another dry spring like the one we had last year, which cut short the honey crop. I run my bees for both comb and extracted honey.

I think a great deal of Prof. Cook's home talks, and hope he will continue them. Good luck to the "Old Reliable."

H. R. BROWN.

Black Hawk, Co., Iowa, May 20.

The California Honey Crop Again.

We have just had a very nice rain, according to reports I have heard, varying from one-half to 1½ inches. I presume the readers of the American Bee Journal expect me to take off my hat and cry aloud—in fact, so loud that I can be heard across the continent—that California is going to have a wonderful crop of honey. "Nit." And that is just why I am writing this. I want to enter a protest right here against bee-keepers becoming so enthusiastic. It reminds me of a lot of pigs—throw an ear of corn in among a lot of pigs, and when one gets hold of it, instead of quickly walking off to one side and enjoying his good fortune, he immediately starts off and begins to squeal, notifying the whole herd of what a good thing he is *going* to have, and thereby loses his chance of getting what he justly should have had.

Now, don't mark me down as being hide-bound and selfish, for I don't want all of the "corn," but I do want all that I *shell* from the cob. I have noticed more than one article—in fact, I think several—since the present season set in, that was very misleading. The writers were innocent of any intentional harm, yet I think they have done considerable to the honey market. I will cite only one instance to illustrate: Mrs. Harris, on page 341 of Gleanings in Bee-Culture, says, "And considering California's and Cuba's prospective large crops of extracted honey, I shall operate my bees principally for comb honey." Now, I think Mrs. Harris must have drawn her conclusions from what she has read.

As to Cuba's prospective crop, I would not like to hazard even a guess, for I know nothing about the country or its prevailing conditions; but as to California, I do not think the facts of the actual conditions here will warrant any conclusions that California will have a large extracted honey crop. I do not believe it is right for any one to make an assertion unless it is founded on facts that will substantiate his argument, and as I have implied that California will not have a large crop of honey, I will endeavor to give the actual conditions here.

Please bear in mind one thing, that is, that I am speaking comparatively with large crops of the past seasons. The last time Southern California had a good honey season California produced a great amount of honey. That

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.

Tennessee Queens!

Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3¼ miles apart, and mated to select drones, $1.50 each; untested warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and but few within 5 miles. 2s years' experience. Discount on large orders. Contracts with dealers a specialty. **JOHN M. DAVIS,**
6A26t **Spring Hill, Tenn.**

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Bee-Keepers' Supplies.

Just received a consignment of the finest up-to-date **HIVES** and **SECTIONS** we've had. They are 2d to none. Complete line of **Bee-Keepers' Supplies** on hand. Bees and Queens. Catalog free.

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Price of Queens from Imported Mothers:

Tested	1—	$ 1.50
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Tested	6—	6.50
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Tested	12—	12.00
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(Golden, same price.) Select tested, either race, $2.50. Write for circular.

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19A4t **HENRY ALLEY, Wenham, Mass.**

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HORSE-HIGH!
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was in 1897. Since then, as every one knows who reads, California has had a series of dry years. That being the case, no industry has suffered worse than apiculture, and, to illustrate, I will cite a few of the losses that have come under my personal observation. I will begin with my own apiary: At the close of the season of 1897 I had 120 colonies of bees, but sold all but 65 of them. Since then I have bought 204 colonies, and at the beginning of this season I had 147 colonies. I have fared far better than the average, and will give a short table, omitting names, and using letters instead. This will represent different apiaries in the five counties of Southern California that I know of—their conditions in 1897 and in 1901:

	1897 Colonies.	1901 Colonies.
Mr. A.	110	30
Mr. B.	75	34
Mr. C.	150	00
Mr. D.	185	100
Mr. E.	35	65
Mr. F.	85	20
Mr. G.	25	1
Mr. H.	45	00
Mr. I.	65	00
Mr. J.	27	(1900—7 cols.)
Mr. K.	70	40
Mr. L.	200	100
Mr. M.	800	500
One district 5 miles across it	1500	240
Mr. N.	100	34

I could go on, but it is unnecessary. This is sufficient to show something of what the loss has been in Southern California; and that is not all, for the honey-producing plants have suffered also, many of them having died.

I think the majority of the bee-keepers who have any bees left will try to build up their apiaries, but increase in an apiary that is run for extracted honey will be at the expense of the honey crop.

Up to the present time we have had so much cloudy and cold weather that my bees have stored comparatively little honey, and if any one can, under the now existing conditions, see the prospect for a large honey crop in California for 1901, I vote him the palm.

Since writing the above I have received an offer of 4 cents per pound for 1½ tons of nice sage honey. How does that strike you?

J. W. GEORGE.

Riverside Co., Calif., May 4.

Nectar Going to Waste in Michigan.

The bees are very busy on fruit-bloom and dandelion. Bee-keeping is in its infancy in this locality. There are thousands of acres of raspberry, clover, willow-herb, basswood, goldenrod, asters and many other honey-plants too numerous to mention, that are wasting their nectar year after year.

I am 23 years old, and commenced bee-keeping at 17. I am very much interested in it. I have always been in the habit of carrying bee-papers in my pockets instead of tobacco. Whenever I found any one that I could interest I would either give him sample copies, or tell him the valuable information they contained, and I find I have been well paid for my trouble, as I have interested quite a good many in bee-keeping.

ELIAS E. COVEYOU.

Emmett Co., Mich., May 18.

Transferring from Box-Hives to Movable Frames.

Some time ago some one gave instructions for transferring bees and combs from box-hives to movable frames. His instructions called for thorns run through the holes in the frames into the edges of the combs, thus pinning them fast. Now, I haven't the thorns at hand, and even if I had I have a way that I like better, and I think others will; I also have better success in getting the combs to stay in, and it makes them much straighter, too. My plan is as follows:

Wire the frames the same as for putting foundation in them. Then cut a piece of board a scant ⅜ inch thick that will just fit into the inside of the frames, and nail this to a board of convenient size, say 2 inches larger each way, to be used for a lap-table. This can be used for putting in foundation as well as the old combs. Fit the pieces of old combs together as closely as possible, and trim off all around even with the smaller board, then lay the frame on top of the combs, holding it down steady and firm, and cut with the knife close along the wires down to the mid-rib or septum, pressing the wires down firmly in the crease. Lay another lap-board on top, and turn the whole thing over on the other side, lift the first board mentioned and lay aside. Have some narrow wood splints made, say ¼ inch wide and as long as the frames (wood separators make good ones), then tack on 1, 2, or 3, according to the sizes of the pieces of comb used, and the work is done—except, of course, that the splints are to be pulled off after the bees have attached the combs to the frames.

I have many combs made up in this way which are as straight, and but for the line of connection between pieces of comb can not be told from one built upon foundation.

Consign all crooked pieces of worker-comb and *all* drone-comb to the extractor, as the profits from them will not pay for the "puteration" necessary.

The bees have done good work on willow bloom, but rain and cold weather held them from fruit-bloom almost entirely. Some of the fruit is not yet through blooming, and the dandelions are out, but the cold weather keeps the bees from them. F. W. HALL.

Sioux Co., Iowa, May 13.

Lost 8 Colonies—Dandelion in Bloom.

I had 65 colonies of bees last fall, but have lost 8 of them up to date. Dandelion is in bloom, and fruit-trees will be in a few days if it gets warmer. It is quite cool and windy to-day, and rains a little. C. F. BAKER.

Allegany Co., N. Y., May 13.

Bee-Sting Remedy.

I noticed in the Bee Journal an inquiry for a bee-sting remedy. I use iodine, and if applied at once there will be no swelling and the pain will cease in a few seconds. This remedy can be used even on the youngest child without injury. H. W. HAMILTON.

Walker Co., Ala., May 14.

Uniting Weak Colonies in Spring.

This is considered by many experienced bee-keepers love's labor lost. J. B. Hall, in the Canadian Bee Journal, has this to say:

This I have found from practical experience is waste of valuable time. It is all very well to do it as an amusement, but for profit never unite two or three, or ten weak colonies. See that they have enough honey, keep them shut down, and give them a good letting alone, and they will be sure to pull through. If you have ten, and you put nine together, there is only one queen left, and that may be the poorest queen of the lot. You have not only lost four or five, but you have destroyed the good queens, and very likely have a poor one left, and you have nothing but your queen. Don't unite in the spring, let them pull through if they can; if they don't, you have the hive for something better when the warmer season comes. That is my experience after 25 years. I used to unite them, and when we put them together they made a very good-looking colony of bees, both in honey and bees, but in three weeks from that I had only one colony of bees, and, therefore, I think my time was wasted. You know as well as I do, that those bees are old, and will live a few weeks only, and they don't pay for the labor of uniting them with a colony that has a queen. You may lose your queen by

ITALIAN

BEES AND QUEENS

Having been 28 years rearing Queens for the trade on the best known plans, I will continue to rear the best.

PRICES:

One Untested Queen.....$1.00
One Tested Queen 1.35
One Select Tested Queen 1.50
One Breeder..... 3.00
One Comb Nucleus 1.80

Belgian Hares

Choice, pedigreed and common stock; youngsters, $3.00 per pair. Write for description and prices. J. L. STRONG,
11Atf Clarinda, Page Co., Iowa.

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a Portable Fence, try the PAGE. It can be taken down and re-stretched any number of times.
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Bingham Smokers never lose fire—always READY. 23 years the best and cheapest—and always will be. Bingham & Hetherington Uncapping-Knife is the best also. See May 9th No. American Bee Journal, or send for circular for description.

T. F. BINGHAM, Farwell, Mich.

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ONE Untested Italian Queen FREE as a Premium for sending us TWO new subscribers to the American Bee Journal for one year (with $2); or, one Tested Queen free as a premium for sending us FOUR new subscribers with $4.00).

We have arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us the coming season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

Orders for these fine, "long-reach" queens will be filled in rotation—"first come, first served"—beginning about June 10th. It is expected that orders can be filled quite promptly, as a large number of nuclei will be run. All queens will be guaranteed to arrive in good condition, and all will be clipt, unless otherwise ordered.

CASH PRICES of these fine queens will be as follows: Untested, $1.00 each; Tested, $2.00 each. Send all orders to

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144 & 146 Erie St., CHICAGO, ILL.

that uniting, and if you do not lose that queen those bees are old, and are going to pass from the stage of action in a very short time.

Light-Weight Brood Foundation.

J. M. Rankin reports in Gleanings in Bee-Culture a series of interesting experiments which are a bit surprising in their results. He put in nine different hives comb foundation of different weights, the heaviest running 6 Langstroth sheets to the pound, then 7, 8, 9, up to 13 sheets to the pound, putting in the same hive foundation of two different weights for the purpose of comparison, giving an equal show to vertical and horizontal wiring.

He found it more difficult to put the thin foundation in the frames and wire it; but the bees showed a preference for the lighter foundation by working it first, their preference being strongly marked when the heaviest and lightest were put in the same hive. With vertical wiring, 10 sheets to the pound was the lightest that could be used without having the sheets wavy and stretched between the wires. With horizontal wiring all sheets, even those running 13 to the pound, made straight and even combs. Tons of foundation are now made in sheets running 9 and 10 to the pound, which weight was formerly considered entirely too light for brood-combs, but it now appears that by using horizontal wiring it may be used even as light as 13 to the pound, making quite a saving. The difficulty of satisfactorily wiring such light foundation, however, should make one a little cautious.

Foul Brood and Its Treatment.

In the Canadian Bee Journal for January, 1901, I see that Mr. Pender, editor of the Australasian Bee-Keeper, advises the hiving of foul-broody bees on starters of comb-foundation as a pretty sure way of curing the disease.

I judge Mr. Pender to be a good bee-keeper, and a man that would treat his colonies before they became bad with foul brood, and then doing his work so carefully and so well that he made a success of curing all by hiving the bees on starters of comb foundation.

The number of cures that can be made that way will depend entirely upon the following conditions:

1st. On how little diseased honey the bees find to take out of the old combs when they are being removed.

2d. Where much of the honey in a foul-broody colony is badly diseased, everything will depend upon whether anything is to be placed above the queen-excluder to catch the diseased honey after the bees are given the starters, if the starters are not to be removed.

In the honey season of 1875, while curing my own apiary of foul brood, I took all the combs out of several diseased colonies and left the bees to build combs on the bare frames, and in a short time I had about as many failures as I had cures. This method cured every colony that was not bad with the disease, but failed on every colony that had been bad with foul brood, and had a good deal of unsealed honey in the brood-nest when the old combs were removed. Just as soon as the bees had a little comb made they stored part of the old diseased honey in it, and a little later on foul brood made its appearance again. I then resorted to taking away all the new pieces of comb that the bees made during the first four days, and let them keep what they made after that. This plan thoroughly cleansed the bees of all the diseased honey, and ended in perfect cures. I also cured many colonies that summer by the use of clean combs and the frequent use of the honey-extractor, and in the fall of that year, after brood-rearing was all over, I cured quite a number of foul-broody colonies by shaking the bees onto sound sealed stores. This plan

left the bees no place to store the diseased honey, and forced them to keep it until they consumed it, and that ended the disease.

All of these plans and methods I studied out 25 years ago last summer and fall, when I had to treat 50 out of 60 colonies in my own apiary for foul brood.

When foul-brood matter is drying down it glues itself fast to the lower side and bottom of the cells, and there it will remain as long as the comb lasts, and during honey-flows the bees store honey in many of these diseased cells, and after that foul brood is spread through a colony in proportion to the amount of honey that is fed from the diseased cells to the sound larvæ. In the honey season, when we are taking the combs out of the diseased colonies to cure them, the bees (finding the unsealed honey so handy with no uncapping to do) rush into the open cells and take all they can hold, and where many of the diseased cells are full of unsealed honey (as they usually are at such times) the bees will get pretty well filled up with diseased honey before all the combs are removed. To cleanse the bees of this honey I give them starters of comb foundation, and in four days the bees make them into little pieces of comb and store the diseased honey in them. I then (in the evening) take away all the comb that the bees made in the four days and give them full sheets of comb foundation, and before this is worked out the cure will be complete. This is the safest and most practical method for all classes of bee-keepers to follow, and one that never fails. It is one thing to cure an apiary of foul brood and quite another to do it and make more or less increase and have all colonies in grand condition when the season closes, and this can be done.

When I am examining an apiary I mark each colony according to the condition I find it in. I put one pencil cross on the front of the hives that are strong in bees and have only a little of the disease; two crosses on those that have less bees and more disease; and three crosses on those that are weak in bees and badly diseased. In the evening, in the honey season, I pick out the weak colonies that have the three crosses on, and shake the bees of every three into an empty hive, so as to make good, big colonies to start with, and then give them the starters, which are to be removed in the evening of the fourth day, and full sheets of comb foundation put in their place. I take the hives next that have two crosses on, and put the bees of every two of these into an empty hive and treat them. I then remove the combs ont of the hives that have one cross on and shake the bees right into the same hives, and treat them.

Where I find only a few cells of the disease in colonies that have large quantities of nice, sound brood, I save this brood with some bees on it and fill up two-story hives with it. I then set these hives back a little distance from the others, and when the most of this brood is hatched I go in the evening and shake the bees into a single hive and treat them and give them a queen.

The increase of colonies that I make by hatching out the best combs of brood during the honey season (which is the only safe time to do this) more than makes up for the old bees I united.

All curing and treating of diseased colonies should be done in the evening, so as not to have any swarming out and mixing in with others, or bees returning to the old stands after they have been united with others.

This same method of curing can be carried on at any time from May to October, when the bees are not gathering any honey, by feeding plenty of sugar syrup in the evenings to take the place of a honey-flow.

All the combs and pieces made in the four days should be made into wax.—Wm. McEvoy, in the Canadian Bee Journal.

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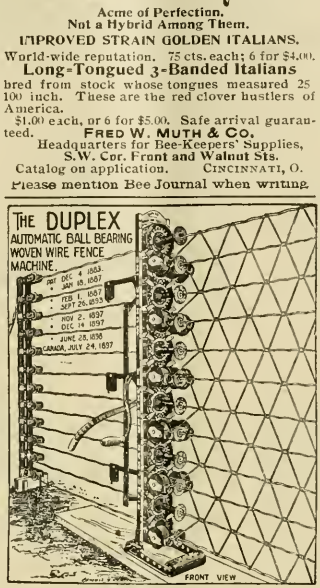

100 Different Styles of Fence.—It seems almost past believing that one little machine which can easily be handled and moved about by one man is capable of weaving over 100 styles and kinds of farm, lawn, poultry and ornamental fencing. This is, however, true of the Duplex Ball Bearing Woven Wire Fence Machine. It is manufactured by our advertising patrons, the Kitselman Brothers, of Muncie, Ind. The cut shown with this article gives a very good idea of the machine and its method of operation. It also shows one style of farm fence in course of construction. The Duplex will handle satisfactorily any and all sizes of wire, using large wires for laterals and weaving on any number of smaller sizes of wires. It will also weave perfectly a fence with desirable barb-wire at top and bottom, a style of fence much sought after and appreciated in certain localities. Fence may be made of any desired height up to 50 inches. As to capacity, this will vary somewhat, depending upon many things, but the manufacturers state it conservatively at from 40 to 60 rods of farm fence per day. The Standard Duplex Machine makes a fence up to 50 inches high as stated above, but at a small additional cost special machines may be had which will make fence 5½ and 59 inches high, respectively. The Duplex is well and honestly made of good material, and with anything like ordinary care will last indefinitely. Kitselman Brothers are also large manufacturers of Ornamental Fence and Gates. These fences are made entirely of wire and iron in the greatest variety of form and fanciful designs. They are so constructed that they will turn all sorts of marauders and at the same time increase rather than detract from the beauty of the enclosure. The ornamental gates and the neat steel posts and rails greatly set off and increase the beauty and strength and value of the fence. Write these people requesting printed matter on fence machines, ornamental fencing and gates and all classes of fence materials, and don't forget to mention the American Bee Journal when writing to them.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, May 20.—Market is nominal in almost all lines; a little comb sells at 15@16c for choice white, with the amber grades ranging from 2@5c less. No movement of any consequence in extracted, all dealers seeming to be expecting a lower range of prices. A little fancy white clover and basswood sells at 7@8c, depending on flavor, quality and quantity taken; ambers, 6@7c; dark and buckwheat, 5@5½c. Beeswax steady at 30c.
R. A. BURNETT & Co.

DETROIT, May 21.—Fancy white comb, 14@15c; No. 1, 13@14c; dark and amber, 10@12c. Extracted, white, 6½@7c; amber and dark, 5@6c. Beeswax, 27@28c.
Very little desirable honey in sight. The new crop will find the market well cleaned up. The demand is always light at this season of the year. M. H. HUNT & SON.

CINCINNATI, May 17.—No demand for comb honey, also stock of it well exhausted. Extracted very dull; sales are more or less forced; lower prices from ½ to 1 cent per pound.
C. H. W. WEBER.

BOSTON, May 21.—Our market continues dull on honey with very light stocks on hand. Our normal prices are as follows: Fancy 1-pound cartons, 17c; A No. 1, 16c; No. 1, 15c; No. 2, 12@14c. Extracted from 6½@7½c.
BLAKE, SCOTT & LEE.

OMAHA, May 1.—Comb honey, extra white, 24-frame cases, per case, $3.40; No. 1, $3.25; amber, $3.00. PEYCKE BROS.

NEW YORK, May 3.—We report aquiet market on all lines. While the old crop of comb honey is well exhausted, still there is some arriving, which has been carried by the producers, evidently, for a higher price Values are mostly nominal now, and it is only a first-class fancy article that will sell at quotation prices. We quote:
Fancy white, 15c; No. 1, 13c; amber, 11@12c; buckwheat, 9@10c. Extracted is decidedly dull, and very little inquiry. Old crop of California light amber and partly white, is now being offered as low as 4½c a pound f.o.b. coast, which, of course, hurts the sale of other grades to a large extent. Beeswax is firm and sells on arrival at from 28@29c.
HILDRETH & SEGELKEN.

BUFFALO, May 18.—Fancy 1 lb. comb, 15@16c; dark very dull indeed, 8@12c. Berries hurt sale of honey now. BATTERSON & Co.

KANSAS CITY, May 4.—Practically no shipments arriving, and very little selling. We are getting $3.50 to $3.65 per case of 24 sections No. 1 white; amber, $3.00 to $3.25. Beeswax scarce at 25c. W. R. CROMWELL PRODUCE Co.,
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ALBANY, N. Y., May 3.—Honey market very dull. Very little call for anything but choice comb honey, of which there is a scarcity. Extracted quiet. H. R. WRIGHT.

SAN FRANCISCO, May 15.—White comb 11@12 cents; amber, 8@10c; dark, 6@7 cents. Extracted, white, 5@6c; light amber 4@4½c; amber, 3½@4c. Beeswax, 26@28c.
No large quantities of new honey have yet put in an appearance, but the anticipation of heavy receipts at an early day is imparting a weak tone to the market. Free purchases are not possible, however, at current quotations, and dealers may find it necessary to pay better prices than now nominally current before securing any considerable portion of this year's crop.

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White Clover	90c	1.70	4.00	7.50
Alfalfa Clover	80c	1.40	3.25	6.00
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Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., JUNE 6, 1901.

FORTY-FIRST YEAR No. 23.

WEEKLY

PROF. A. J. COOK.—(See page 354.)

THE AMERICAN BEE JOURNAL.

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DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

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To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

When Lilacs Bloom.

When lilacs bloom, the winds grow still;
The velvet deepens on the hill;
The bee turns giddy as she greets
With long-drawn, happy kiss, the sweets
The lavish, love-flushed blossoms spill.

The daisy dons her whitest frill;
The oriole his gladsome trill
Sings loud, and oft his joy repeats,
When lilacs bloom.

Then lives with careless rapture fill:
Then hearts with joy of living thrill;
And Fancy weaves her golden cheats—
Ah! who would doubt the fair deceits?
No room for reason, thought, or will,
When lilacs bloom.

—JESSE F. O'DONNELL,
In The Chautauquan.

MR. G. SPEARMAN, says the British Bee Journal, probably has the largest apiary in Great Britain, containing more than 300 colonies.

MR. A. P. RAYMOND, writing from Clark Co., Wis., had these kind words to say:

FRIEND YORK:—I am still reading the American Bee Journal, and am much pleased with the improvements you are making from time to time in its bright pages, and which make it more enjoyable, if such a thing be possible.

I sincerely appreciate the successful efforts you are making to keep it "up to date" and abreast of the times. A. P. RAYMOND.

PROF. A. J. COOK, the editor of the department of "The Home Circle" in this journal, is a man who has long been before the bee-keeping public. We think we can hardly do better than to copy what the "A B C of Bee-Culture" has to say concerning Prof. Cook and his work:

Albert J. Cook was born Aug. 30, 1842, at Owosso, Mich. Those who are intimately acquainted with the man will not be surprised to learn that his parents were thoroughly upright Christians. The daily reading of the Bible, with comments by the father, reinforced by the constant example of a chaste, honest, and industrious daily life, left its impress for life on the character of the son.

At the age of 15 he entered Michigan Agricultural College, where he graduated at 20, having been obliged during his course to suffer the sharp disappointment of suspending study a whole year on account of sickness, his health having been rather delicate during his earlier years. Upon his graduation he went, on account of poor health, to California, where for three years he labored very successfully as a teacher. He then studied a portion of two years at Harvard University and Harvard Medical College with Agassiz, Hazen, and Dr. O. W. Holmes as teachers. In 1866 he was appointed instructor at Michigan Agricultural College, and in 1868 Professor of Entomology and Zoology in the same college.

He has done and is doing a work unique in character, for he instructs the students, not only about insects in general, but about bees in particular. Every student that graduates goes all over the theory of bees, studies the bee structurally from tip of tongue to tip of sting, and goes through with all the manipulations of the apiary—that is, if there is any honey to manipulate; handles the bees, clips queens, prepares and puts on sections, extracts, etc. Probably in no other institution in the country, if in the world, is this done.

Prof. Cook was an active and influential member of the North American Bee-Keepers' Association, of which he has been president; was one of the originators of the Michigan State Bee-Keepers' Association, of which he was president for a number of years, and helped to start the State Horticultural Society, being a member of its board for some years. He is widely known as a writer. His "Manual of the Aplary" has reached a sale of 18,000 copies, and "Injurious Insects of Michigan," 3000 copies. He is also the author of "Maple Sugar and the Sugar-Bush," of which 5000 copies have been published. He has written much for bee-journals, as also for the general press. He is a clear, practical writer, with a happy style.

In the battle waged against insect-foes, he has rendered valuable service. Remedies which he first advised are now common, and he was probably the first to demonstrate the efficacy and safety of Paris-green for codling-moth.

Prof. Cook is of average height and weight, a charming conversationalist, and an intensely interesting lecturer. His very pleasant manner is only a fair index of a genial and loving spirit that, in an unusual degree, strives to put the best construction on the conduct and motives of every one, and throws a mantle of charity over their faults. His spirit of kindness extends to the brute creation; and on his farm, in which he is much interested, he has some fine-blooded stock; and in attempting to engage a hand to work upon the farm, the writer once heard him stipulate as essential that the employee must be kind to animals, and free from the use of liquor, tobacco, and profane language.

In December, 1893, Prof. Cook removed from Michigan and went to Claremont, Calif., where he now fills the chair of Entomology in Pomona College.

We can add hardly anything to the foregoing, except to say that we heartily endorse its every commendation of Prof. Cook. We are glad to count him among our friends. We believe that he is doing some of his very best work for bee-keepers in his department in this journal. His careful early training, and long years of experience with young people, both in and out of college, eminently fit him to advise wisely in everything that pertains to the home and its members. If what has already appeared from his pen in the new department is a prophecy of things to come, we may all expect many a rich feast during the future weeks and months. Our hope is that all who read his sage teachings may profit by them, and thus cause many a home and home life to be better and sweeter because of his efforts.

WORSE THAN WASTED.—The drink bill of this nation is, for the year, $1,059,565,787, or $13.94 for every man, woman, and child.—[I believe the drink evil is the worst problem that civilized countries have to contend with, and sooner or later all right-thinking men must line up, either for or against the saloon. So far as I am individually concerned, I propose to fight the saloon through any organized effort that will mitigate this terrible evil.—EDITOR.]—Gleanings in Bee-Culture.

No one ever need apologize for being against the saloon. It's the other fellow that ought to be ashamed of himself. Chicago is one of the hotbeds of the saloon curse, and such havoc as it produces! The only reason it is here is because the good people don't stand together and cast it out. Some day they will unite, and then—good-by to the greatest vice, crime, and poverty breeder in the world. We believe every reader of the American Bee Journal is ready to join in the final overthrow.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., JUNE 6, 1901. No. 23.

Editorial.

Renewing Queens.—Bee-keepers differ in opinion and practice as to the matter of renewing queens. Some say it is best to leave the matter entirely to the bees. In a state of nature they always renew their queens when they have attained an age of perhaps not more than three years, in rare cases allowing them to become four or five years old. Others say it is best to have only young and vigorous queens, never tolerating a queen more than two years old, while still others put the age limit lower yet. They say, "Breed only from your best, and never allow a queen to reach an age of two years, and your stock will be constantly improving."

All agree that it is right to breed from the best, but it is not always easy to tell which is best if an age of less than two years dooms a queen to death. A queen would hardly be replaced earlier than some time in June, and the harvest of that year would be largely the work of the progeny of her predecessor. So that leaves only the harvest of one year to judge from, and that is not so good as more, for accidental causes sometimes come in the way of deciding that would not occur a second year.

The matter of wintering is to be considered. There is no doubt a difference in colonies in this respect, and a queen whose bees should winter well for three or four winters in succession, other things being equal, should have the preference.

It is possible that longevity should be considered. It is well known that sometimes a colony exceeds the average in storing, while at the same time its queen has not reared as many young as the average, and some think this is because of a difference in longevity, a worker living a week longer than the average being able to store a fourth more than the average, for a bee is not expected to do more than four weeks of field-work, usually. It is also true that some queens live longer than others under the same conditions, some queens doing as good work in the third year as the first. It is not unreasonable to suppose that if a queen is longer-lived than the average that her workers will share in that characteristic. So it might be safer to breed from a queen that had done good work for three years, and such queens would not be known unless superseding were left to the bees.

Still another point in favor of leaving the matter of supersedure to the bees is that it interferes the least with the work of the bees. When a new queen is given by the bee-keeper, it *may* be so introduced that there will be very little interruption in the laying, but there will be almost certainly some degree of interruption, and it *may* be serious; whereas, in the case of supersedure by the bees there need be, and generally is, no interruption, mother and daughter often laying for a time side by side.

Along with all this is the fact that it is a good deal easier for the bee-keeper to leave such matters to the bees, and so it is no great wonder that many of the most experienced say that supersedure is a matter that rightfully belongs to the bees.

Scientific Breeding.—Arthur C. Miller, in Gleanings in Bee-Culture, broadly hints that editors of bee-papers and authors of bee-books are ignorant upon the subject of heredity and scientific breeding—a charge which he is probably pretty safe in making; but the reading of his article does not add much to the reader's stock of knowledge upon the subject. About the only paragraph that gives any instruction up the subject is the following:

"'Thoroughbred' is not 'crossbred,' as any high-class stock-raiser will testify. Thorough breeding is cautious, careful, scientific in-breeding (do not confound this with in-and-in breeding); and when alien blood is introduced the result can never be foretold with certainty, the chances being toward *atavism*, the reverting to a previous type."

Even that does not explain the difference between in-breeding and in-and-in breeding—merely says they must not be confounded. The seeker after the difference who goes to the dictionary will not be helped much, for he will find one of the definitions of "in-breed" to be "breed in-and-in." But Mr. Miller's object is probably merely to call attention to the prevailing ignorance, and in that view of the case his article is timely. Never, probably, was attention so much drawn to breeding for improvement of stock, and Mr. Miller is quite right in saying, "It is high time we began to be scientific in our work. The haphazard, guess-at-it-rule-o'-thumb ways have prevailed altogether too long."

Introducing Virgin Queens.—George W. Commins says in the Australasian Bee-Keeper, "A virgin queen can be introduced if there are queen-cells in the hive, by just running her in." Editor Pender replies in a foot-note:

"Virgin queens can not be introduced with any certainty of success when more than an hour or two old. Any colony, having queen-cells started several days, will receive a virgin queen that has just emerged, and often such queens will be accepted by bees if allowed to run into the hive immediately the laying queen is removed, but there is so much uncertainty the practice is not usually adopted. Try a virgin say 12 hours old and I think you will fail every time."

It may be remarked that on this side the globe there is good authority for saying that a virgin queen just from the cell (not one that has been held in the cell by the bees) will be kindly accepted in any colony, whether queen-cells are present or not, even in a colony with an active laying queen. That is meant in the broadest sense, that such a queen will not be disturbed in *any* colony whatever, and yet such a statement without any additional word would be very misleading. Put such a virgin in a hive with a laying queen, and although she may be received ever so kindly, you may find her missing a day or two later. It looks as if the bees did not recognize any royalty about her till she attains a few hours of age, after which she will not be tolerated. If, however, it is late in the season, when supersedures are likely to take place at the close of the harvest, then the bees may take the new-comer and allow her to dethrone the old queen.

Securing Control of a Territory is sometimes an easy matter, and sometimes not so easy. In making plans for extending by way of out-apiaries, Harry Lathrop says in the Bee-Keepers' Review that his first step would be to secure a suitable location where he would lease a small piece of ground in a sheltered nook, and then says:

"Having secured the land for a term of years, I will erect a small, cheap building that will serve as a shop, extracting, and bunk room. A cellar will be dug, in sloping ground, of sufficient size to winter 150 colonies, which would be the maximum number that I would expect to keep in that yard. I would fence and clean up the ground and make it as neat and handy as I could at a small expense. Then I would buy up all the bees that were for sale on the field, and begin to form my apiary.....One can usually buy at a fair price what few bees the farmers have on such a field."

Perhaps; and yet in many cases the very fact that farmers knew a man was engaged in establishing an apiary of considerable size would arouse in them the thought that more was in bee-keeping in that locality than they had supposed, resulting in an immediate rise in price. Indeed, it has very frequently been the case that the establishment of a prosperous apiary has induced others to go into the business to a considerable extent who never thought of such a thing until they saw the establishment of that prosperous apiary.

Convention Proceedings.

Report of the Minnesota Bee-Keepers' Convention.

BY DR. L. D. LEONARD.

The Minnesota State Bee Keepers' Association held a convention Dec. 5, 1900, at Minneapolis. The meeting was called to order by H. G. Acklin, the chairman of the executive committee, the president, J. P. West, being ill, and, therefore, unable tobe present.

After preliminary exercises, Vice-President G. H. Pond took the chair. The first business of importance was the report from a special committee consisting of Wm. Russell, H. G. Acklin and J. P. West, on the adulteration of honey. This committee had collected samples of honey from different parts of the State, and took them to the Dairy and Food Commissioner for analysis. It is due to this society, through the efforts of this committee, that the Dairy and Food Commission have taken a more active interest in the suppression of the adulteration of honey during the last year, than they ever did before.

QUES.—Is it well to extract all the honey from the brood-frames at the end of the white honey season?

Mr. Turnbull would not extract from brood-frames at all; Mr. Shepherd said the same; Mr. Perry would take part of the honey out; Mr. Russell thought that in small hives one should not extract from the brood-frames; and Mr. Acklin believes in extracting from the brood-frames, and that sugar syrup is better for the bees to winter on than honey.

AFTERNOON SESSION.

This session was held jointly with the Horticultural Society which was holding a convention in Minneapolis at the same time. Dr. L. D. Leonard reviewed the literature relating to the mutual relations of bees and horticulture, and the following paper written by Pres. West, on the same subject, was read by Mrs. Acklin:

BEE-KEEPING AND HORTICULTURE.

There are a great many things which are of interest to the bee-keeper and horticulturist, and if I were present I think I could say some things which would interest you, all applicable to both occupations; but to write them is another thing.

I take for granted that every up-to-date horticulturist believes that bees are great agents in fertilizing flowers that are not capable of self-pollenization, and that they are a great benefit where cross-fertilization is a benefit and is desired.

Honey, as a general thing, is secreted only in such flowers as are incapable of self-fertilization: while those capable of being fertilized through the agency of the wind secrete no nectar to entice the bees. As examples, we see wheat, oats, barley and herds-grass, all capable of being fertilized by the rustle of their stalks by the wind. All the clovers and buckwheat must be fertilized by insects. The poet puts it thus:

> "Bees kissing the flowers; they sip its sweet,
> But make the buds more fruitful and better to eat."

Prof. Bailey, of Cornell University, a very eminent horticulturist, says bees are much more efficient agents in pollenization than wind, in our fruits, and their absence is always deleterious.

Mr. Morton B. Waite, of the Division of Vegetable Pathology of the Department of Agriculture, says many varieties of apples require cross-pollenization, and the pollen must be from different varieties; and further he says (and from decisive experiments), plant mixed orchards, or at least avoid planting solid blocks of one variety, and be sure there are sufficient bees in the neighborhood to visit the blossoms properly.

Mr. A. C. Berry, horticulturist commissioner of Tulare County, Calif., has had great experience in this matter and has an orchard of several hundred acres. He says that bees and fruit go together; that he can not raise fruit without bees; and that he has them all about his orchard.

A Mr. McIntyre, in a horticultural meeting in California, relates his experience in starting an orchard, which was very large. It was started 35 miles from any bees, so far as he knew; when his trees were old enough, they blossomed but he did not receive any fruit. As the trees did not bear fruit he was advised by other fruit-men and horticulturists to get bees, which he did, and his orchard bore profusely, and he said he had bees all around his orchard. Where there is a large area of orchard, clover, or blossoms of any kind, which require insects to fertilize them, Nature has not supplied a sufficient number of insects to perform the work, hence the necessity of keeping bees. I have about four acres of strawberries. In the season of 1899 and 1900 when they were in bloom they were very fragrant, and as the weather was very favorable for visits from bees and insects, they were literally covered with bees, and my berries were never so perfectly fertilized. Generally there are not many bees to be seen on the vines.

My market and money-making berries are the Warfield fertilized with the Bederwood. I have the plants in rows four feet apart and about two feet in the rows. I mow the vines after the season is over, stir up the mulch and burn when there is a good, brisk wind. Last fall, one year ago, I put 48 big loads of rye-straw on my beds; the straw made me $300. That is, I cleaned up that after paying for picking at one and one-half cents. The crop was about one quarter of a crop, and without a heavy mulch I would not have had anything. It was so dry. We had no spring rain, and none whatever until I was about through picking. I never saw such a sight of blossoms, and never saw so much fruit set on vines as there was on this bed. If the good Lord had given me the usual rain in the spring I would have had an *immense* crop.

My land is a black, sandy loam, with clay subsoil, and with good rains in April I can raise a fine crop of berries. The Warfield set so many berries that but few matured, not more than one quarter as many as the Bederwood. I have tried, on a small scale, a great many kinds of berries, but never any that will make me the money as the two-named. My customers, as well as myself, prefer the Warfield, and it is a wonderfully profitable berry on my land; but the Bederwood, in such a season as this, is more so. It produced berries every day, week after week, when everything else was drying up, and it looked for awhile as if the Millerites were going to have things their way, sure.

There has always been a great mystery in almost every apiary, why one colony of bees should gather so much honey in a season, when one right by its side, in apparently as good condition, and having the same management, will produce only about one-half as much honey. The learned editor of the Gleanings in Bee-Culture, Mr. Ernest Root, thinks he has discovered the reason, and I am inclined to think that he is on the right track. Time will tell. To-wit, the difference in the length of bees' tongues. In measuring many tongues he finds there is a great difference in the length. In measuring the tongues from Dr. Miller's two best queens—those that produced the largest quantity of honey per colony—one measured 18-100 and the other 19-100; this is much better than the average. A Kentucky man sent some bees, and their tongues measured 20-100 and 21-100, and one measured 23-100. It takes long tongues to reach honey in red clover blossoms, and in many other flowers. If it should prove that Mr. Root is right, the man who has a queen that will produce bees with tongues 23-100 long, or longer, uniformly, has a Klondike right at home.

Perhaps Prof. Lugger, of the State experiment farm, would help the bee-keepers of Minnesota by measuring the tongues of bees sent him for that purpose. This matter will be thoroughly tested next season, and probably decided, and if there is anything in it I would like to see some Minnesota bee-keeper win the prize.

I am often asked, Does bee-keeping pay? Mr. N. C. Alford, of Colorado, says it paid him. He kept bees for eight years and cleared $6,000, after paying for all the bees and supplies and for labor hired. He generally had 250 colonies. He also owned 1000 acres of land and 500 head of cattle. The alfalfa fields of Colorado furnish an immense amount of bee-pasture, and Mr. Alford is not the only enterprising man who has made big money in keeping bees in Colorado. Twenty-four maiden ladies arrived at Denver on one train recently to engage in apiculture in that State.

In some localities in other States, during the past season, bee-keepers met with great loss by having their bees poisoned by those who sprayed the blossoms on apple and plum trees when in bloom. This matter was thoroughly discussed, and it seems from letters received from the experiment stations in Missouri, Indiana, New York and Ohio, that such trees should not be sprayed when in bloom. Laws have been passed in some States to prevent the spraying of trees when in bloom, and bees are visiting them. Spraying just before and just after bloom seems to be sufficient. This is a matter that should be understood by the horticulturist, and apiarist, par

ticularly in those sections where there are large quantities of fruit raised, and bees are kept. The interests of both the apiarist and horticulturist are the same, and both are necessary that the most good should come to each; they go hand in hand, and are the most interesting and ennobling occupations that man or woman can follow on God's green earth.

J. P. WEST.

This subject was discussed by the horticulturists, and considerable ignorance was shown by them in regard to it. The bee-keepers then adjourned to their own room, where the question-box was again opened.

QUESTION-BOX.

QUES.—Will cross bees gather more honey than gentle ones? Those in attendance were about equally divided on this question.

QUES.—What time in the spring is the best to put out the bees? Answer.—The first warm day after the snow has gone.

QUES.—Is the mammoth clover a good honey-plant? Answer.—The second crop will often yield honey.

QUES.—Would it pay the average bee-keeper to strive to rear long-tongued bees? Answer.—No.

QUES.—Is there foul brood in Minnesota at present? No member knew of any.

(Continued next week.)

Contributed Articles.

Transferring Bees From Box-Hives—Pollenizing Fruit.

BY G. M. DOOLITTLE.

A CORRESPONDENT says he has purchased several colonies of bees in box-hives, and wishes Doolittle to tell through the columns of the American Bee Journal the best method of transferring them to frame hives. The majority of our most practical bee-keepers of the present day believe that what is known as the "Heddon plan" of transferring is the best, taking all things into consideration, so far given. This plan is as follows:

Drive the bees from the box-hive and run them into a hive furnished with frames of wired foundation, the furnished hive to be placed on the stand the colony had occupied up to the time of transferring, while the box-hive with its combs of brood and honey, with the few adhering bees, is to be placed close beside the new hive. In 21 days after, when all of the brood shall have emerged into worker-bees, drive the bees again from the box-hive, driving clean this time, and, after destroying the queen with this last drive, or the one in the colony driven before, according to which is the more valuable, unite the bees with those first driven out, thus getting the bees all on nice, straight combs, and in good shape to give a good yield of surplus honey.

The combs are now taken out of the box-hive, the honey extracted from them, and they are rendered into wax to help in making more comb foundation.

Now, while the above is the best known plan where the combs in the box-hives are crooked or poor, and the season of the year that when the bees are securing honey from the field, yet if the combs in the box-hive are good, straight ones of the worker-size of cell, or we do not have the foundation, or we wish to do this work early in the season, before the bees have much brood or are getting honey from the fields, so that they will not draw out the foundation readily, then, decidedly, the old plan or method given in nearly all the standard works on bee-culture is the proper one to use. I never could understand the logic that melted up good, straight worker-combs, made the wax from them into foundation, wired the frames to keep that foundation from sagging, and then "transferred" the foundation into those wired frames, with an amount of labor nearly equal to that required to transfer the original combs, all for the fun of saying we had used a plan of transferring different from that of Quinby's and Langstroth's day.

Straight worker-comb, properly transferred into a frame, after being fastened by the bees, makes just as good a frame of comb as is the one finished from foundation; and a frame properly filled with comb, without any wires in it, is just as good for all practical purposes, as is the one having wire in it, while the wire is a positive nuisance, if, from any reason, holes get in the combs from moldy pollen, mice or anything of the kind, so that we wish to put in a "patch" of worker-comb to keep the bees from building in drone-comb. I do not wish to be considered cranky, but when a thing savors of more money out than profits in, I have always felt it a duty, as well as a privilege, to enter a mild protest, after which I am not to blame if any see fit to use anything recommended which may result in a financial loss.

BEES AND FRUIT-POLLENIZATION.

I have read twice the article by Thaddeus Smith, found on pages 279 and 280, and the second reading only emphasized the impression of the first, which is, that while he says, "I am set for the defense of *facts*," he seems entirely to ignore them or else is wholly ignorant of many things along the lines of which he is writing, that have transpired during the past. I will take space to speak of only two or three.

He wholly ignores those experiments made by Gregory, of Massachusetts, the great squash-grower, wherein he proved *positively* that not a *single squash* could be raised where insects were excluded from the female blossoms of that plant. And yet all Mr. Gregory did was to place netting which would have admitted millions of those "infinitesimal particles of pollen" which Mr. Smith tells us are the ones which float in the air and do the work of fertilization without the aid of insects or bees, if they are only stirred up with a stick, or by a breeze created by the bees' wings, in which case bees and insects may help a little.

Then he ignores the Wenham episode, which, through jealousy, excluded all the bees from that township, during which exclusion fruit was nearly or entirely absent in the interior of the township, while on its borders, to which the bees had access, fruit of usual quality or quantity obtained, the same as of yore.

And he can not have forgotten the importation of our bumble-bees into the continent of Australia, at a cost of thousands of dollars, after which importation clover seed obtained in fair quantities, when none perfected before. And with these *facts* within easy reach of his understanding he asks, "Who *knows it to be a fact?*" and says such claim "is all conjecture based upon preconceived theory." I believe that Mr. Gregory and history are as unimpeachable witnesses as any which *Pelee Island* can produce.

I do not care to notice Mr. Smith's trying to "hold me up to ridicule," for any intelligent reader would know from the drift of my article in the March 14 American Bee Journal, that only *nectar*-loving insects were intended, where I said "*insects of all kinds.*" Trying to hold another up to ridicule does not count anything in an argument.

Onondaga Co., N. Y.

Swarms Selecting a Location—Historical.

BY A. P. RAYMOND.

A KNOTTY problem has been discussed in the American Bee Journal, regarding the time when swarms select their future home, whether before or after emerging from the parent colony. There are many questions pertaining to bees that, at the present day, we can answer with absolute certainty. There are more, perhaps, that we have been guessing at for many, many years, and are still as far at sea regarding them as were our grandfathers, 100 years ago.

The above question is one of those "stickers" that I think will never be solved until some bee has been educated to talk, and tells us all about it. After reading "Rip Van Winkle's" ideas on this subject, I thought I would consult John M. Weeks, whose work, published in 1836, I have in my library, and I found that he was probably about as near the truth regarding this matter as we are to-day, after a lapse of some 64 years.

Prof. Cook thinks (page 530-1900) that their future tenement is selected by the bees before swarming, but after issuing; they first cluster and wait until the queen is sufficiently rested before proceeding thither. How about second swarms, which are accompanied by virgin queens that are as able and ready to fly as far as the most nimble worker-bee that ever spread a wing?

Rip Van Winkle, (page 777 1900), thinks that they wait until after clustering before making a move toward making a domicile. How about those occasional swarms that leave for the woods before clustering?

Let us give it up and admit that we do not know a thing about it.

By the way, speaking of John M. Weeks, few living apiarists know that such a bee-keeper and author ever existed; and yet I think he should be accorded a place in history alongside of Father Langstroth and Moses Quinby. He began keeping bees about the year 1800 in Salisbury, Vermont, and struggled along with log-gums and straw-skeps with varying success until somewhere about the beginning of the thirties, when he invented and patented a hive which was, in the matter of convenience, far in advance of anything before in use.

In 1836 he published a treatise on bees and their management—a very practical work, which, I suppose, was not very widely distributed, for two reasons: First, meagre transportation and advertising facilities; and second, the work was unpopular, because the author did not accept any of the superstitious theories so prevalent at that period, but gave them solid facts, which, even to-day, relating to bees, seem stranger than fiction.

There were no railroads in Vermont at that time, and it was 13 years afterward before the State could boast of one, in fact it had been only six or eight years since the locomotive made its first appearance on this continent, consequently the mail service was also very poor at this time.

According to Mr. Langstroth's biography in the "A B C of Bee-Culture," this work appeared two years before he (Mr. Langstroth) became the owner of his first colonies. I almost wonder that Mr. Langstroth, who was scouring the world for bee-literature about this time, never ran across this work. As a proof that he did not, I will quote from his work, page 244:

"My attention has been recently called to an article in the Ohio Cultivator for 1849, page 185, by Micajah T. Johnson, in which, after detailing some experiments, he says:

"'One thing is certain, if bees, from any cause, should lose their queen, and not have the means in their power of rearing another, the miller and the moth-worms soon take possession. I believe no colony is destroyed by worms while an efficient queen remains in it.'

"This seems to be the earliest published notice of this important fact by any American observer."

Now hear what Mr. Weeks says, 13 years before this, on page 51:

"Large colonies, that never swarm, are never destroyed by the moth unless they *lose their queens*, melt down, or meet with some casualty out of the ordinary course of managing them....The colony of bees are so numerous that their combs are all kept well covered during the moth season, so that no miller can enter and deposit her eggs."

Quoting from Mr. Langstroth's biography in "A B C:"

"Mr. Langstroth at that time (1838) had never seen or heard of a book on bee-culture: but before the second year of his bee-keeping, he did meet with one, the author of which doubted the existence of a queen."

Now, Mr. Weeks not only admitted the existence of a queen, but he reared them, and had a method of his own of introducing them into queenless colonies.

Mr. Quinby in his work mentions T. B. Miner as being the author of a work on bee-culture which appeared probably a very short time before his own. Without a doubt, Mr. Weeks' work is the earliest treatise on bee-culture ever published in America, and I am convinced by his knowledge of bees, and the methods he employed in their management, that they were acquired only after years of untiring perseverance and hard study.

He seems to have done all in his power to advance and promote the interests of bee-culture—the art he loved so well; but the people were not as ready to accept the true facts as we are to-day, consequently his labor was, to a large extent, in vain; everything pertaining to bee-management at that early day being attributed to luck, and the almost universal answer to the query, "Why, don't you keep bees?" was, "I have tried them but they don't do well *for me*." No amount of reasoning could induce them to make another trial.

Considering all the obstacles that lay in his way, and the difficulties he had to overcome, I think that Mr. Weeks made a good fight, and he should not be entirely forgotten. Peace to his ashes, and all honor to the memory of John M. Weeks.

Clark Co., Wis.

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once, if you want a copy of this song.

Out-Apiaries—Their Management for the Prevention of Swarming.

BY F. GREINER.

It does not lie within the scope of this article to advise nor to discuss ways and means to bring our colonies up to the required standard of strength. It is supposed that at least the majority of our colonies have already attained that state of development.

The principal drawback in running out-apiaries is that the bees are apt to swarm, and that the swarms are apt to go to the woods. It is therefore imperative that our management be such as to prevent all swarming.

We might run our out-yards for extracted honey, giving plenty of room to both queen and bees, always supplying empty comb, etc.; there would then be no swarming. However, we wish to produce comb honey, principally, as we can find a more ready sale for it. Giving plenty of room alone does not have the desired effect, and we must adopt a different management. It would be of great advantage to have only young queens in our colonies—we would then not be troubled with swarms out of their season, which appear frequently, when colonies supersede their queens. All swarms that would appear during the regular swarming period we try to head off. We seldom have any indication of swarming in this locality sooner than June 15. Nearing this date we watch a few of the best colonies, and when we find them constructing queen-cells our operations must soon begin. Hives and supers must of course have been gotten in readiness before this time.

About June 20—some years not till June 25—I go to the colonies most likely to cast swarms. First I give a little smoke at the entrance, then rap on the hive. I aim to give the bees time to fill themselves with honey. The hive is now opened; it may be set to one side first and an empty hive put in its place. This latter should contain but six Langstroth frames or their equivalent, supplied with starters only. This super is placed on top over an excluder, which, however, may be taken out after a week's time. The danger of a queen entering the super is generally past after that time, and the excluder may be needed on some other hive, and may be removed.

After the bees have all filled themselves they are not apt to offer any resistance, and, without using much smoke, I now shake all the bees from their combs in front of the empty hive. I have "an eye out" for the queen and note her condition. After she has gone in with the majority of the bees, I place an entrance-guard over the entrance. Sometimes these shaken-off swarms leave their hive after the apiarist has left, and then the bees leave for other quarters. The entrance-guard is to prevent such an occurrence; it should be removed when making the next visit. The apiary is gone over in this fashion, always selecting the strongest colonies first to be manipulated as stated. A visit is made each week. If honey is coming in, even but moderately, the section-cases on these treated colonies will fill up surprisingly, especially if we have filled the sections with comb foundation, and, unless the season continues through a very extended space of time, there will be no trouble with such as to their swarming that season.

If buckwheat is a source to be relied upon, each of these colonies should receive four frames of comb or foundation at the beginning of the buckwheat flow, which will end the manipulations of the brood-chamber of the shaken-off bees.

The question now arises: What shall we do with the brood-combs we gain from week to week by our shaking-off method? I utilize them in two different ways, viz: For increase and for the purpose of getting extracted honey. At the beginning of the season I set apart a number of good colonies to take care of these brood-combs. They need not be the *very* best colonies, and still they must be populous enough to be able to take care of a full set of combs full of brood, for they are to receive, each in its turn, such a full story of brood as we gain it by shaking off colony after colony. I have said before that I always select the most prosperous colonies first for shaking off, so each successive week we have some colonies to treat in this fashion—have some brood-combs to dispose of. Our nursing colonies, which had received a set of combs full of brood one week, may receive another after a week's time, and a third after another week. Even a powerful colony given this brood from week to week, will not think of swarming—they are kept too busy taking care of the young. They become very populous and also store much

honey as the brood hatches, which may be extracted after all brood has hatched.

Should we have full sets of combs full of white honey, and we have more colonies to shake off, I practice giving a set of these heavy combs instead of a hive full of empty frames. I *never* hive a young swarm on empty combs—not in my locality. I give either empty frames with starters or solid honey-combs. The honey in the latter will always go up into the sections as soon as the room is needed for breeding; but of course the honey must be of good color or it will spoil the looks of the nice white clover or basswood honey the bees may be storing in the sections at the time.

Some bee-keepers advocate and practice hiving young swarms—and shaken-off colonies come under the same heading—on frames of foundation. Aside from getting perfect combs I can see no advantage in this practice. Foundation in the sections pays well, however.

In case I want any increase in the out-apiary I take the colony that has two or three extra brood-chambers and move it to a new location; the two uppermost brood-chambers, neither one containing brood young enough for queen-rearing, I place back on the same stand, giving queen or queen-cell in a protector. Of course we must be sure that the queen is in the part moved. If we have placed an excluder on, a week previous, we can be very positive where the queen is. The queen must always go to the new location. Extracting combs are given to the divided colonies as well as to all colonies not working in sections.

If it should seem desirable to reinforce any of the shaken-off colonies, a hive full of brood, after it has stood over an excluder for two weeks, answers the purpose well; I take it, bees and all, and place it over an escape on top of the colony to be re-inforced.—American Bee-Keeper.

Ontario Co., N. Y.

The Dzierzon Theory of Parthenogenesis—Digestion.

BY PROF. A. J. COOK.

IT has always pained me to read anything reflecting upon one of the greatest discoveries ever made in natural history, that of Dr. Dzierzon, of Germany. The thoughtful bee-keeper may wonder at this remark. He says we may all note that virgin queens lay eggs and that these prove fertile. Yet they always produce male bees and none other. Old queens also frequently become wholly drone-layers. Laying workers are exclusively drone-producers. Surely, if we think carefully upon all these facts we would not wonder that the theory of parthenogenesis in regard to the production of drone-bees might be suggested to so thoughtful a bee-keeper as was the great German priest. Strange others had not made the discovery before Dzierzon did. Yet we would have supposed the circulation of the blood would have been easier of discovery. Yet it was not made until 1616. And this discovery by Harvey is considered one of the greatest ever made.

It is also easy for us to prove the correctness of the Dzierzon theory. Every extensive and observant bee-keeper has had ofttimes in his apiary queens that have failed to mate. He has noted that these queens would lay eggs, and he has also been disgusted to note that the entire progeny were drones. Whenever we read, then, that some apiarist of an experimental turn of mind has removed the eggs from drone-cells into worker-cells, and vice versa, and in so doing has changed the sex, we have a perfect right to put a large interrogation point after all his statements. Like the matter of mating in confinement, we may well write, "Interesting if true," but undoubtedly not true. Dzierzon's theory is a very great one, and all praise is due the great German bee-keeper.

As the readers of the bee-papers know, the Dzierzon theory has recently been called in question over and over again by no less authority than F. Dickel, of Darmstadt. He was editor of the Nordlinger Bienenzeitung. He holds that his experiments prove that normally all eggs were fecundated. He claims to have transferred eggs from drone to worker cells, and that these latter developed into workers. The reverse he also claims to have found true. It will be remembered that von Siebold and Leuckart proved by microscopic examinations that Dzierzon was right in his conclusion. Dickel contends that the dicta of these great scientists is no longer to be accepted. He says truly that the sperm-cell or spermatozoa would not be seen except at a very early stage in the development of the egg, and that very likely these observers made their investigation so late that they would not have noted the sperm-cell although it may have been there at an earlier period. This is true as Dickel states, yet it is also a fact that in case of fecundation the spermatozoa are succeeded by the sperm nucleus and a starlike body known as the sperm aster. These are obnoxious, and their presence makes certain that a sperm-cell was previously in the egg.

Recently A. Weismann, under the title, "Uber die Parthenogenese der Bienen," in Anat. Anzeiger, gives the results of three years' investigations. Weismann urges that there is *no* ground to doubt that von Siebold saw seminal filaments (even two to four in a single egg). Blochman, by sectioning eggs with the microtome, has seen the same, and these results have been confirmed later by Petrunkewitsch. These, however, von Siebold could only have seen in the freshest eggs, which were all taken from worker-cells. The 27 drones-eggs which von Siebold studied, were all above twelve hours old, and so the failure to find the sperm-cells in these was not proof that they might not have been there at an earlier period.

The material that Weismann used in his experiments was principally obtained from Dickel himself. The eggs were taken from the cells, put at once into a preservative fluid, and sent to Weismann. Weismann finds that whether the eggs are fecundated or not can only be determined with certainty when it is killed at the time of the second maturation spindle. In the stage of the first maturation spindle, the nucleus of the sperm-cells is either without radiations, or else the sperm filament has not been transformed into a sperm nucleus. In either case there is great doubt if the sperm-cell can be recognized with certainty. In the second spindle stage, however, the radiations of the sperm aster are complete, and there is no danger of either overlooking or misinterpreting them. Petrunkewitsch sectioned one hundred and twenty-three eggs, which were in the first spindle stage. Twenty-nine of these were worker-eggs, and twenty-three showed the sperm nucleus with evident radiation. On the other hand, not a single sperm aster was found in any of the ninety-four eggs from drone-cells. The result from the study of sections of eggs taken in the second spindle stage was still more conclusive. Of the sixty-two eggs taken from worker-cells, there was no mistake regarding the presence of the sperm aster. Two hundred and seventy-two eggs were taken from drone-cells and only one of these contained the significant radiation. As every bee-keeper knows, occasionally a worker-bee comes forth from a drone-cell. As I show in my "Bee-Keepers' Guide," the queen adds or withholds the sperm-cell at will. She may occasionally make a mistake. As I show in my book, she often does when she first commences to lay, as we frequently find at such times, drones scattered through the worker-brood. That, as Weismann suggests, she should occasionally make a mistake in depositing drone-eggs is no marvel. In the case where Weismann found the sperm aster in the egg from a drone-cell, no doubt the queen made such a mistake when she laid the eggs. Weismann, after making these elaborate experiments, concludes that Dzierzon's views are fully confirmed—normal eggs laid in drone-cells are not fecundated, and that those laid in worker-cells are always fecundated.

Dickel makes the observation that as soon as the queen lays eggs, workers enter the cell and busy themselves in some kind of manipulation. He thinks that they add saliva. In case he is correct in this observation, his conclusion that this has something to do with determining sex does not follow. Dickel further adds that if the eggs are covered at once after being laid, so that the bees can not visit them, they will not hatch even though left where the warmth of the hive would seem to make the conditions favorable. It has been suggested that in this case the eggs are coated with saliva and thus the escape of moisture is prevented which would otherwise prevent their hatching. I think there is some doubt about this, but in any event the determination of sex is in no way dependent upon these early visits of the bees. If the eggs are fecundated, either queens or workers will result; if not, we may as surely expect drones. The determination of the queen or workers is unquestionably dependent upon the quantity and quality of the food furnished them.

Dickel urges that there is a difference between drones produced by laying workers and those produced by queens, and he believes that the former are functionally imperfect. I have never believed that we knew that this was true. Weismann says that he sees no proof that it is so. There is, however, a slight though constant difference in the development of the eggs from the two different sources. This being true, it would not be surprising if we should find that

drones from laying workers were unable to furnish sperm-cells that would fecundate the eggs. That the drones from the two sources may differ would not be exceptional, as there is a wasp which has two kinds of drones. It is not known, however, whether or not these drones have a different parentage.

ARTIFICIAL PARTHENOGENESIS.

The interesting experiments of Morgan and Loeb, which show that by the addition of certain salts the unfertilized eggs of sea-urchins may be made to develop more or less completely, have attracted very general attention among naturalists. Recently, some further experiments by Pieri and Winkler have been made in somewhat the same direction. These scientists took the sperm, shook the same up in either sea or distilled water then filtered it and added the filtered portion to unfertilized eggs. As a check, other unfertilized eggs were placed beside the former and treated the same way, except the decoction from the sperm was withheld. Many of the eggs to which the sperm extract had been added, partially developed, which was true of none of the others. It was found that the sperm extract made in sea-water was more efficient than that made in the distilled water. To any one who has studied marine organisms, this is no surprise. These experiments are interesting to bee-keepers. It would seem that in certain cases other stimuli than sperm-cells may induce the commencement at least of development. How it is that the drone-eggs develop without any stimulus at all is still a mystery which possibly may never be solved.

WHAT IS DIGESTION?

I am surprised at what the Editor states in the opening paragraph on page 195. He says that Mr. Root is still in doubt about my criticism of his definition of digestion. I doubt if Mr. Cowan claims to be a physiologist. He quotes in giving his definition of digestion. He certainly quoted from a very able physiologist. I am sure, however, that this physiologist and no other would defend the definition. In all our physiologies we find a chapter set apart for the discussion of the subject of digestion. This chapter confines itself to the explanation of how food is fitted to be absorbed, and nothing further. In vertebrate animals, the digestion is done partly in the stomach and completed in the intestines. In the stomach the gastric juice is the agent of this digestion, and the proteids, like the albumen of egg, etc., are the food elements that are transformed. These are changed into peptone—a substance which differs from all other albuminoids in being very osmotic. Other nitrogenous substances will not dialize, that is, they will not pass through organic membranes.

Digestion is to change substances so that they may pass through and escape from the stomach into the blood. In the intestines, starch, sugar, and the fats, and possibly proteids not digested in the stomach, are digested. The agent in this work is the pancreatic juice. It has three distinct substances, one of which digests the starch, one the fats, and the other, proteids. This, then, is digestion.

Assimilation is quite a different thing. Another term for this is anabolism or constructive metabolism. This work goes on everywhere in the body. It is the changing of the nutritive elements into tissue and is the direct work of the cells which are found in all the tissues of the body. Where anabolism is very active, there the cells are very numerous, as seen in brain and muscle. Where the constructive metabolism is less active, there the cells are less abundant, as noted in bone and cartilage.

Surely, if Mr. Root will consult any physiology, or inquire of any of our leading physiologists, he will no longer remain in doubt regarding the correct definition of digestion. True, our dictionaries do speak of assimilation, as though it might be akin to digestion. Physiologists do not use it in this sense. Los Angeles Co., Calif.

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

The Premiums offered this week are well worth working for. Look at them.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Drones Reared from Laying-Worker Eggs.

In examining my bees this spring I found one queen had died during the winter, and a laying worker was busy. Will the drones produced from that laying worker be a fit specimen for a queen to mate with? NEW JERSEY.

ANSWER.—Instead of one laying worker there were probably many. As the eggs that produce drones are always unfertilized, I know no reason why the unfertilized eggs of a laying worker might not produce fully developed drones. Yet I should rather not depend upon drones reared in such an abnormal way.

Workers With Drone-Eyes.

I send you a sample of bees that have heads like drones. These bees are just from the cells. The queen is one year old that produced them. They have heads like drones, as you will see. Just about one-third of the working force are like these. One head is all right, like others. This is something I never saw before. TEXAS.

ANSWER.—The case is one beyond my knowledge—workers with eyes like those of drones. Are you getting up a new breed of bees with increased powers of vision?

Prevention of Swarming—Other Questions.

1. We wish to increase our apiary to 200 colonies this season, and thereafter we desire to prevent a further increase. Will you give us the most practical method of the prevention of increase? We wish to know a method that has succeeded. We use the 10-frame Simplicity hive. Would it be practical to allow the swarm to come out and hive it in the usual way in a "hiving-box" on the old stand, take the parent hive away under a tent, cut out all queen-cells, take it back to the old stand, shake out the swarm in front of the hive, and then give them plenty of super room and ventilation?

2. Our hybrids seem to be inclined to swarm more than our pure Italians. Is this their inclination generally?

3. We would ask your approval or disapproval of a ventilator bottom-board as follows: Cut a hole through the bottom-board about the center 8x10 inches. Over this hole tack wire-cloth, and underneath the board place a slide made of wood that will close the hole or open it at will. This slide may be drawn to any extent as the heat of the hive may demand. Would such a device retard or discourage swarming? We have just constructed one such bottom-board and placed it under a populous colony. We find that, when the slide is drawn, the number of fanning bees is diminished. Our hives are on individual stands, about 12 inches from the ground. We regard this bottom-board as a perfect remedy in a case of robbing. The hive-entrance may then be closed completely, and the slide drawn to give the bees plenty of air. The colony that is doing the robbing may be served in like manner. This will stop the robbing at once.

4. Which are the better honey-gatherers, the hybrids or the pure leather-colored 3-banded Italians from imported mothers? NORTH CAROLINA.

ANSWERS.—1. The probability is that the bees with your plan would immediately start queen-cells and swarm again. You will have better success to remove the old queen and cut out all queen-cells but one. As you wish to know a method that has succeeded, you might try this: Just before queen-cells are started, lift the old hive off the stand and put in its place a hive with foundation or starters; find the queen and put her in this empty hive; put an excluder over, and then set the old hive with its contents over the excluder.

2. Perhaps so; but there is not much difference.

3. Anything that allows entrance for more fresh air is a help toward prevention of swarming, but the same end would be more easily and more fully attained by raising the hive on four blocks.

4. Some of the hybrids will be better, and some not so good. The pure stock will be more uniform and more permanent in character. The pure stock is better to breed from, and will not run out so easily as the hybrids.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses. By E. E. HASTY, Sta. B Rural, Toledo, O.

TALKING BEES 400 B. C.

One would say that every intelligent bee-man, ancient as well as modern, knew that it took honey to rear drones, as well as more of it to feed them after they were reared. The two different sizes of comb-cells in the hive are too conspicuous to be ingnored except by pronounced dullards—and it's easy to conclude drones too big to be reared in worker-cells. I would say then that perhaps it's not quite *certain* that Socrates knew of apiculturists who habitually practiced reducing drones by cutting out drone-comb. It may have been not much more than a dream of his active mind, that if he kept bees he would save honey by cutting out what drone-comb could be got at. Drone-comb is not usually in the heart of a normal colony. All the same, it's interesting to hear a man talk bee-manipulation correctly four centuries before Christ. Page 254.

MORE ANENT THE SCORE-CARD.

Mr. Greiner, on page 262, laudably tries to fix things so judges of bees at fairs can not ignore the drones. He hardly "gets there." Drones will still be mostly ignored, except under the fourth item. Suppose we change:

Color and markings of workers and drones	25
Size of workers and drones	20

and make it:

Color, markings and size of workers (10-10-10)	30
Color, markings and size of drones (5-5-5)	15

KEEPING YOUNG QUEENS CONTINUALLY.

The reform chariot of keeping young queens continually in every hive runs against quite a "hestle," against two hestles, in fact, when Doolittle and J. B. Hall both emphatically denounce it. But if you *do* remove old queens for that purpose, be sure and destroy all cells capped at five days. Page 263.

HIVING SWARMS A LA GEHRING.

And so Teacher Gehring would have his class hive bees by placing swarm and limb carefully in front of the entrance, as close as possible, and then blissfully watch results. I would respectfully put in a pretty strong protest. No doubt that succeeds nicely oftentimes; but, if I am right, a large percentage of swarms will refuse to move in as they ought—will just remain in a provoking-to-patience pile partly on the front of the hive and partly on the limb. What's the use to follow a method that fails half the time, when it's just as easy to succeed all the time? I don't say you can always succeed in making them stay, but you can practically always succeed in making them run in. The full details would be rather long for this department. With a big pot-spoon dose the hive—small doses and often. After awhile increase the dose, and anon fall to shaking instead of spooning. But keep most of the bees on the limb until they are running in lively. Most important of all, keep poking the entrance clear as often as it threatens to get blocked up. Waiting for stationary bees to start up is mostly a humbug. Make 'em "git furder" right straight along. To some extent, and with due moderation, the smoker can be used to hustle them; but too much of it makes them fly badly. A brush of green twigs, to whip them and sweep them and stroke their backs, is better. And always smoke a cluster of bees gently (just what you can without making them fly) before you do anything with them. Just about as bad practice to manipulate swarms without smoke as it would be to open hives without smoke. Both can often be done; but what's the sense of it? Our smoker dog doesn't charge anything for barking, and why should we bark ourselves—or go barkless, with three thousand thistles thrust through our bark? Took me about half my bee-keeping life to get this much of horse-sense through my noddle.

GIVING CELLAR-BEES A FLIGHT.

Whether it is profitable or unprofitable to give cellar-bees a winter flight is an important question. It is regarded by some, it would seem, as one of the unsolved questions. My impression is that the heavy old chaps are mostly in the negative. May be I count 'em wrong. F. W. Hall's experience, page 268, seems quite decidedly in the affirmative—and with this quite healthy Irish bull I'll rest a bit from my afterthinking.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

SOUL-GROWTH FROM READING.

There was one advantage—the greatest one—which comes from reading that space crowded out of our last "chat" in "The Home Circle." I refer to the moral uplift—the soul-growth. We all agree that valuable as is bodily vigor, and desirable as is mental growth and power, both pale before spiritual development and influence. The outcome of Samson's colossal muscle was to pull down; Shakespeare's incomparable mental grasp which so enriches our literature and quickens thought, did not lift the whole world to a higher plane. Christ's life, which touched the spiritual that is in man, raised the whole world to better thought and purpose. It is the transcendent glory of any soul to be able to lift spiritually a brother soul. It is the most blessed gift that any of us can receive, to gain inspiration towards a more Christ-like life. The reading of good books is the mightiest force in moral development and spiritual uplift. May I speak of our own college?

We have about 200 students. A majority of these (61 gentlemen and 42 ladies) are engaged in voluntary Bible study. Many of these not only meet with one of their number, selected for special fitness as leader, for an hour each week, but all study the lesson for a half-hour each day, many taking the time just before breakfast. I believe that there is no one thing that promises more for the real success of our College than does this fact—nothing that so surely bespeaks a useful future for our students.

To spend an hour each day in close mental touch with Elijah, with Paul, with Christ, gives an equipment for life that is beyond estimation. The inspiration that comes from reading good books secures to the world such nobility of soul as was in Lincoln; such purity, sweetness, and such wealth of vital, moving spiritual force, as came to us in Longfellow and Whittier.

Soul-culture is the richest adornment that any person can possess. Soul-culture makes a great people, a worthy nationality. Soul-culture alone can rightly solve the China and Philippine problems. The reading and study of good books will be the greatest force to bring to us this priceless soul-culture. Mr. Coggshall, none of us can overestimate the value that ever comes from the reading and study of our best literature. Whatever we do, let us not neglect the matter of reading in the home circle.

BOOK AND MAGAZINE CLUBS.

It is good to have several of our best books, magazines, and papers—more than many of us can afford to subscribe for. May I tell how we manage this? I like the daily paper, which usually takes about ten minutes of my attention each noon-time. I cut the price in two by taking it with my next neighbor. Do all in our home circles know how much they lose by not joining in friendly co-operation with the good neighbors? We all have the very best neighbors in the world. Many of us do not know it because we do not know them.

To digress: Three of my neighbors and I own a cow together. Such friendly partnerships make a pleasanter neighborhood atmosphere, and I believe brighter home circles. Eight of us neighbors each take a magazine. Thus, we have the Century, Atlantic, Scribner, Popular Science Monthly,

Harper's, The Forum, North American Review, and an art magazine. These are passed each week, and each one has his magazine to keep in the end. I take and keep one magazine. I have the reading, or opportunity to read, eight of our best magazines. I feel rich in this arrangement, and I am glad to suggest that many of our home circles enrich themselves in some such way.

Our book club is another of our neighborhood co-operative institutions, which is now several years of age. This has a still larger range. Eighteen of our Claremont "home circles" profit by this admirable arrangement. We all wish to see, possibly to read, surely "to thumb over," all the best books of the year. We each pay $1.50. This secures 18 books. We all unite in securing the volumes, and as we are all alert during the year, we are likely to make a good selection. We rarely secure a book that we regret later to have purchased. There are one or two such each year. We each keep a book two weeks, and must date the day we receive it. Each day that a book is kept beyond the specified time requires a fine of 5 cents. At the close of the circuit the books are sold to the members by auction, and always bring in more than half cost.

I recommend this, or some kindred plan, to all our home circles. It is very popular, and deservingly so, with us. I presume I read about one-fourth of the books, and "thumb over" all of them. Mrs. Cook reads many more, and daughter Bertha some more than do I. Thus we get as a family quite an insight into the best that is written in America and England each year.

Anything that incites those in our American home circles to read more and more thoughtfully the best books and papers, should receive the fostering care of all of us. May not our bee-keepers profit by something like our magazine plan? There is always something in each of the bee-papers that is valuable to each of us. There are articles in each, and some number of each, that some of us do not care for at the time. To have them all would be a signal gain. In almost every neighborhood are there not five bee-keepers that get mail at a single post-office? In such case, five magazines or journals could be taken, and by a convenient exchange all have all. If such an arrangement could be generally carried out, can any one doubt but that it would be a substantial gain to our industry? When any one reads, and so handles his business more wisely, all are gainers. The slovenly, unlettered bee-keeper slumps the market with his inferior product. The up-to-date, thoroughly-read bee-keeper advances the market, as all first-class products are sure to raise prices.

THE FARM FOR CHILDREN.

Mr. Coggshall keeps his farm at a loss because Mrs. Coggshall wishes it for the children. God be thanked for such wise mothers as Mrs. Coggshall. Such mothers will not have to grieve over wayward children as the years roll on. A distinguished writer, and college president, says in one of the last month's magazines, that our cities would soon die of rot were it not for the fresh blood from the country that pours annually into them. Strange that the city business man does not recognize that his virility comes from the vigor of body, mind, and integrity, which was bred in the country home of either his or his father's boyhood. If he recognized this he would do business in the city and live in the country. It would take time to come and go. Mrs. Coggshall would say time given that our "best crop," the boys and girls, should be a truly "best crop," is time best employed.

The country home builds industry, purity, truthfulness, righteousness, into character. The country home is the very saviour of our country. The rush from country to city is full of menace. May we not hope that a better judgment may swing the tide, and that we shall soon see a flood, at least for the boyhood of our people, from city to country? I wish Mrs. Coggshall's words could be sounded into the ears of every parent our country over.

COMMITTING SCRIPTURES TO MEMORY.

My fortunate boyhood's home circle was richer, better, for hearing the Bible read each morning. I would not have had that part of my early culture omitted for a fortune of what the world calls riches. I, to-day, can hear the words and comments of my dear father, though he has been dead for years. These memories are a priceless legacy. I could not deny my children what had been so precious to me. So I have always read daily from the "Book of books." I have often wondered if my words read, and my comments, would be such a benizen to my children as were my father's to me. Some parts of the dear old Book are so incomparably precious that we have learned them. Thus we have the Ten Commandments, many verses from Isaiah, the 1st, 2d, 8th, 19th, 23d, 24th, 121st, and 117th Psalms, the Beatitudes, Romans 12th, and 1st Corinthians 13th, etc. We often, instead of reading, repeat. It is blessed to know these chapters by heart. It is blessed frequently to repeat them in concert in the home circle, after the morning or evening meal.

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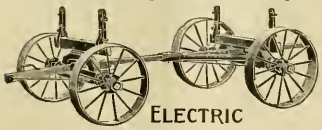

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GENERAL ITEMS

A Report from Massachusetts.

This is more of a market-gardening country than anything else, with dairying as a side-issue. There is no buckwheat raised to speak of, and very little white clover. About 50 colonies, I should judge, are kept within a radius of two miles from here. Are "kept," I say, but most of them keep themselves. They are in box-hives owned by people who never saw a bee-paper, and would not look at one if they could, because their fathers never did. In extra-good years they sometimes get a little surplus honey, but in poor years their bees starve. I bought one colony in a box-hive for $2.50 last spring (hybrids, I should think), from which I took 30 pounds of fine comb honey. The combs were very white and well filled out, but the honey was rather dark, almost of a greenish color, but very thick. I do not know what it could have been gathered from. The bees did not swarm last year, but will probably do so this year, and I hope they will do still better. They have wintered well on the summer stands.

Mrs. E. C. Fox.
Middlesex Co., Mass., April 10.

Prospect for a Successful Season.

We have 34 colonies, and the season bids fair to be a successful one. Many of our hives are already so full of bees that they are hanging outside considerably. None have swarmed as yet.

I find the American Bee Journal very useful. S. M. Allen.
Pierce Co., Wash., May 11.

Clover and Bees Wintered Well.

Bees wintered well, and the prospects for a honey crop are good. Clover was not winter-killed as it was the two previous winters.

W. J. Brown.
Ontario, Canada, May 12.

Prospect for a Good Honey Crop.

Colonies of bees are getting very strong if it is cold, and the prospect is good for a large honey crop. H. W. Lee.
Winnebago Co., Ill., May 24.

Migratory Bee-Keeping—Moving Bees.

I have done more or less migratory bee-keeping for a number of years, and have hauled bees over all kinds of roads, in all kinds of weather, and in every style of hive. The hive matters but little, except that if it is large and cumbersome it will make a difference in the number that can be hauled at one time. I have only one large horse, and a wagon made expressly for hauling bees, heavy but with very easy springs, thus causing very little jar, and never breaking down combs, although I have carried some very frail ones.

In the clover season my bees are taken to my "Tucker" apiary, and at the close of this flow I take them to the Zack Chandler marsh, where there are thousands of acres of Spanish-needle, which grades with clover in this market.

In preparing the bees for removal I have only the bottom-boards fast. Nothing else is done to them except to remove the covers if the hives will not tier up easily with them on. I use no wire-cloth, and never close the bees in. I drive to the yard, unhitch the horse, and about dusk begin to load up. I usually select a moonlight night, thus combining pleasure with business. I have never had an accident in moving them in this way, for if they find themselves at liberty, and therefore settle down contented, while if they are shut in

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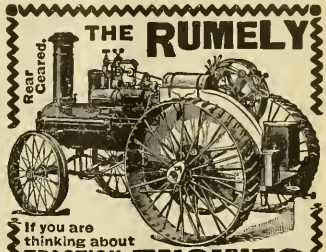

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Orders for these fine, "long-reach" queens will be filled in rotation—"first come, first served"—beginning about June 10th. It is expected that orders can be filled quite promptly, as a large number of nuclei will be run. All queens will be guaranteed to arrive in good condition, and all will be clipt, unless otherwise ordered.

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they will worry and gnaw, and if there is a possible chance they will rush out and cause trouble. I remove them regardless of strength; some of the hives may be full of bees, but there will be no danger of trouble.

The most important thing to be considered in moving bees is which way the combs shall be placed—toward the horse or crosswise. Many of the readers will remember our good old friend and bee-master, J. H. Townley, who in the early '80's gave me, as well as many others, our first lessons in bee-keeping, and who advocated placing the combs lengthwise. But after years of practical experience on all kinds of roads, hilly, stony, up-and-down, trotting the horses, etc., I find that combs placed *crosswise* are more safely carried. There are more or less ruts, sticks, stones, etc., on any road, while up or down hill one always walks a horse or team.

Ingham Co., Mich. A. D. D. Wood.

Prospects Good.

Bees are doing well. Clover is plentiful. Prospects in general are good.

D. J. Blocher.

Stephenson Co., Ill., May 16.

Bees Working on Dandelion Bloom.

Our bees have been doing very well the past two weeks on dandelion and other bloom, some of the colonies having 50 pounds or more of surplus honey in the extracting-combs. A northeast wind and rain prevails at this time, which is interrupting their work; but if the storm does not end in a killing frost there will no doubt be an abundant flow of raspberry and other honey as soon as the weather is warm enough. H. W. Cornelison.

Washburn Co., Wis., May 23.

A North Carolina Report.

We have an apiary situated in eastern North Carolina, which is being run for comb honey. Last year the spring opened with 75 colonies in very poor condition, owing to the fall bloom being cut off by storm the August before. Last year was one of the finest honey-years ever known here, and our 75 weak colonies built up and gave us 5,000 pound sections of honey. About three-fourths of this was white honey.

We wintered our bees last winter in single-wall hives on the summer stands without the loss of a single colony, except that two were found queenless. This brought us out this spring with 122 colonies with queens. Nearly all of these were in good condition. April was a cold, wet month, and the bees pulled through under difficulties.

The apiary is situated in a pine thicket bordering on a farm. The trees are 50 or 60 feet high, hence we have to clip our queens that we may be able to control the swarms. We have had 24 swarms up to date.

Occasionally a queen will emerge with her wings, which is the result of superseding. One such came out to-day and lit in the top of a pine 50 feet high. We were anxious to bring her down, fearing other swarms might join her. We tried jarring the tree with an ax, thinking that she would get tired of flying and alight lower; but she resisted our efforts until we despaired of being able to capture her alive. When she became an "outlaw," five shots from a Winchester repeating shotgun brought her to the ground, together with many of her followers.

Baxter & Farnell.

Pamlico Co., N. C., May 18.

A Colorado Lady's Experience.

I bought 16 colonies of bees and united to 13, a year ago last fall. This was too large a start, according to all the advice I could get, but I wanted to go in that deep. I spent about $60 on bees, new hives, etc., and last year I spent $100 on all sorts of supplies. The bees have yielded honey enough to pay for themselves and the cost of keeping them. I now have 33 colonies in fine condition, so I think.

I have read so many bee papers and books that I am just bursting with information, but

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when confronted by a live bee, or a practical situation, I feel very ignorant and helpless. I had such a queer experience in introducing queens last year. There was no pasteboard over the cage-hole. One colony had been long queenless, though I had just found it out, and the other had an imperfect queen. I didn't know that, either. Some time before, I knew their queen was dead, and gave them a frame of eggs, which were too old, I think. Well, the queens came at night, and I was too impatient to wait till morning, so opened the hives and placed the cages between the frames. I waited a *week* and then looked in to discover that neither queen had been released! I waited three days longer, and found that the bees having the drone-layer had killed her and accepted the new queen. I found out then for the first time that they had a drone-layer.

Looking in the other hive I found the queen still imprisoned, and so I let her out myself. Two weeks later both hives were full of young brood—an astonishing quantity! Neither colony was worth requeening, apparently, but I wanted to try an experiment. Then I was very anxious for fear the brood would chill and the queens wouldn't go through the winter, for I saw they were wonders. I fed both colonies, and covered them up snug and left them. Now they are running over with bees.

Imprisonment didn't seem to injure those queens. I am afraid I will lose track of them when they swarm. I have never tried clipping, but do not fancy it.

(MISS) JOSEPHINE FIELD.

Las Animas Co., Colo., May 12.

The Uses of Honey.

Mr. Herman Cook, of Wyoming Co., Pa., sends us the following, taken from the New York Tribune, contributed by J. F., of Preston, Conn.:

The ancients regarded honey as a celestial food, and they used it at all religious ceremonies. The Egyptians used it as a remedy for various diseases. To judge from the Bible, honey was for the Hebrews as indispensable as milk and flour, and it served them as an excellent medicine for the gout, coughing, and all kinds of wounds. For the Arabian, honey is of great importance, as is shown in the Koran by the story of the man who one day came to ask Mahomet what to do for his brother, who was suffering great pain, and about to die. The prophet prescribed honey, and the man followed his advice. After a short time, however, the man returned and told Mahomet that the remedy, instead of alleviating the evil, only made it worse. But the prophet answered, "Go home and continue to give honey to your brother, for God speaks the truth, and your brother's body has lied." And the patient recovered after a continued use of the remedy.

The ancient Greeks used honey as a means to prolong life. Pythagoras lived only on honey in order to keep healthy his body as well as his mind. Other examples are those of Democritus, who died at the age of 109, and Anacreon, who died at the age of 115. Both were very fond of honey, and consumed it in large quantities.

Therapeutically, honey is much employed in diseases of the mouth. It is known that these diseases (thrushes) very soon disappear after the application of honey in combination with alum or borax. When children are teething their gums are rubbed with a decoction of marshmallow (the root of Althea officinalis), or saffron with honey. For pains in the throat gargling with honey and lemon-juice is an excellent remedy. As curatives are further known the Oxyme scillitica (vinegar and honey), and the sanative wine (chevril, knapweed, white wine and honey). Also the application of diluted honey to burns, chilblains (in this case the honey is combined

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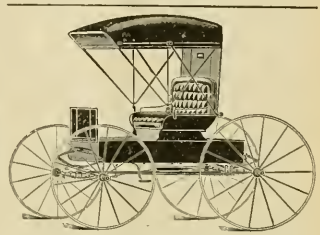
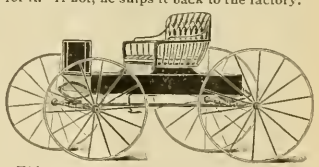


Ten Days on Trial.—In the past several years certain manufacturers and others, with that knowledge and unbounded faith borne of experience have been sending out all sorts of things to the farmer to be first tried by him and paid for only after he is convinced of their merit and satisfied with the bargain. So far as we know, however, the Kalamazoo Carriage and Harness Co., of Kalamazoo, Mich., is the first firm in the United States offering to send out carriages, buggies, wagons, harness, etc., on this plan. Those of our readers who have followed their advertising as it appeared from time to time in our paper, will have observed the proposition—the plan is to send articles which appear in their catalog to anybody, anywhere, on 10 days free trial. The purchaser orders the vehicle he may wish, and when it is shipped, he goes to the railroad station, hitches up to it and drives home. He can use it in any legitimate way and subject it to any test arising from reasonable use for the space of 10 days. If at the end of that time he is satisfied with the job, he simply pays the catalog price for it. If not, he ships it back to the factory.



This appeals to us as being about as fair and open a method of doing business as it is possible to adopt. It is certainly a most gracious compliment to the honesty and fairness of the farmers of our country. It gives them the opportunity to see and try just what they are buying and to test it in every way before being obliged to pay for it. Certainly the manufacturers, who will offer their goods to people on such liberal terms, have unbounded confidence in the value of their wares. We should expect, under these conditions, that the Kalamazoo Carriage and Harness Co. made only first-class vehicles, and trimmed and finished them only in a first-class and enduring manner. Any of our readers who are in need of a vehicle or harness of any kind should write them at once for illustrated and descriptive catalog. They mail it free. Please mention the American Bee Journal when writing.

with oil of turpentine), inflammations, and in many cases of veterinary practice, are almost generally known.

To preserve the complexion there is nothing better than honey-baths, which, a hundred years ago, were much in use among the ladies of the stage, and have to-day again come in vogue in Paris.

Spring Feeding in the Fall.

The Canadian Bee Journal reports that very practical bee-keeper, J. B. Hall, as saying:

"As far as spring feeding is concerned I am a lazy man, and I have found it is better to give the spring feed in the month of September previous; and as I have advocated in the past, never open your colonies until the fruit blossoms, unless there is something wrong with them. If you want to know their strength, and can not tell by the noise they make, tip up the hive and look underneath—do not break the quilts. This may make the difference of a crop of honey or no honey. You open them in the spring to see if they are queenless—what good can you do them if they are queenless? Let them be."

Money Not the Highest Success.

W. A. H. Gilstrap utters some good sense in the Bee-Keepers' Review when he says:

"Many make more than a living at home, mainly from bees, who could make more money to scatter their time and business all over the country, and still have less of life's real success than at present.

"To illustrate, you can find places, isolated perhaps, where you can make more money with a system of out-apiaries than you are doing at present; but you would necessarily have to be away from home more, would be worth less to your family, to society and yourself, than in your present capacity. To make the suggested change would be very unwise."

In-Breeding.

The opinion is commonly held that without occasional introduction of fresh blood one's stock will run out, and that continued in-breeding means final decay. Under usual circumstances the opinion is probably correct, but it should be known at the same time that in-breeding under skillful and intelligent management may produce very desirable results. The editor of Gleanings in Bee-Culture says:

"Very recently my attention has been called to a series of articles in the Jersey Bulletin on the subject of in-breeding to get prize-winning stock. I was surprised to note how the breeders of high-class Jersey blood in-breed. In one or two instances I noticed that a mother had been bred to her son, and sisters to brothers, for the express purpose of accentuating certain desirable traits. I observed, further, that this practice has been carried on to great advantage for many years.

Bee-keepers have much to learn from the breeders of other fine stock. But we have one difficulty to contend with, and that is, that of getting a particular queen mated to a particular strain of drones."

In the same paper J. H. Gerbracht says:

"I think I will say a word right here about in-breeding. There is not in existence to-day a single strain of unusual superiority of either cattle, hogs, or chickens, in which this principle has not been employed to secure a fixed type; and after this has been done, the fixed type can be maintained only by the most careful and scientific line-breeding. Crosses between different strains produce just the same unreliability and tendency to degeneration as crosses of distinct breeds do, except in the few cases in which, either by accident or the exercise of most unusual good judgment, the two strains happen to 'nick' well. In cattle and swine breeding, the infusion of one-eighth new blood is considered enough to offset whatever ill effects close in-breeding may produce, the idea being to use the least possible amount to maintain the vigor and stamina with as little disturbance of characteristics and type as possible; and the success of the breeder depends to a great extent on his ability to do this accurately.

In poultry-breeding, particularly in the varieties which have variegated plumage, in-breeding and line-breeding are the only ways by which any fixity of type can be secured; and some breeders boast of not having gone outside of their own yards for breeding-stock for 20 years. Of course, the results are sometimes the same as those attained by some breeders of five-handed bees—good to look at, but of no utilitarian value: but this is by no means necessarily the case; and the best laying and most vigorous-growing stock we have to-day is from this same line-breeding."

Assaulting the Bees.

A writer in Badminton says that in India, about eight miles from the town of Jahalpur, is a place called The Bee, from the fact that swarms of the insects live there and defend their holding against the world. Shocking are the tragedies which have resulted from invasion of the spot. Some men who had unwittingly disturbed the bees were set upon by stinging millions, and plunged into the river. But every time they showed their heads above water, the insects settled upon them in clouds, and they chose drowning to a more hideous death. Deer, pigs, and even the lordly tiger, have paid the same penalty for their indiscretion. Says the Englishman who described the spot:

I determined to invade the home of the bees, and I began by designing a suit of defensive armor. It was a sort of overall suit, tied round the neck with tape, a bee-veil to be tucked into the garment, riding-boots, gauntlets, and two pairs of gloves. Into this suit I was sown by the tailor, so that there should be no chink or crevice.

Abram, a native, and I, armored and carrying a bucket and two coils of rope, were to climb up to the back of the hills so as to get above the bees, and Percy, who was in charge of the boat, ascended the rocks. He went to the bank of the river, which was under the point of attack, and made his boat fast.

Abram and I climbed to a well-considered height, and then I left him and crawled cautiously forward. I could hear a sort of all-pervading hum, dominating even the roar of the water beneath, and my nostrils were filled with that sweet smell which is made up of honey, wax and bee.

I decided that the point of attack was about

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a hundred yards farther on; so I returned for Abram, and together we made our way there. The cliff was sheer, and even overhanging. A dense mass of bees and comb lay about 50 feet below me, and 50 feet below that were the boat and my faithful ally.

I put one end of the rope round a tree growing at the edge of the cliff, gave the other end to Abram, and went over. I found I should have to get a swing to reach the ledge on which I meant to stand. Hanging down on this ledge from above was 10 or 15 feet of comb.

I reached the rock with my hand, gave a push, swung out, then in again, struck in the middle of the comb, and gained my feet with a scramble.

The bees were upon me. The air reeked with that curious acrid smell familiar to those who have been stung. The noise of the water below was drowned by the hiss of the angry bees. I was completely blinded, for they had swarmed over my veil, blocking out the light. When I touched my body it seemed to me, through my glove, that I was covered by thick, soft fur, all bees.

For a few moments I was stupefied, frightened. Then I realized that my armor was trustworthy, and that I was safe. Abram lowered the bucket, and blindly I felt about for the comb, and as well as I could, scraped it into the bucket. I lowered it to Percy, and shouted to Abram to lower me. He told me afterward that he could not see me. In the place where he knew I must be was nothing but a brown, whirling mass.

I swung out into the dark, bumping as I went. At last a man clutched me, and I knew I was at the bottom. I brushed the bees from my veil, and through a driving mist of them saw a cluster of other bees in the shape of a man. This was Percy.

We cut ourselves adrift, and rowed to a convenient place, where we made for the shore. There, five mile away, we made a sulphur smoke, and were freed from the last of our enemies.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, June 1.—Market is nominal in almost all lines; a little comb sells at 15@16c for choice white, with the amber grades ranging from 2@5c less. No movement of any consequence in extracted, all dealers seeming to be expecting a lower range of prices. A little fancy white clover and basswood sells at 7@8c, depending on flavor, quality and quantity taken; ambers, 6@7c; dark and buckwheat, 5@5½c. Beeswax steady at 30c.

R. A. BURNETT & CO.

DETROIT, May 21.—Fancy white comb, 14@15c; No. 1, 13@14c; dark and amber, 10@12c. Extracted, white, 6½@7c; amber and dark, 5@6c. Beeswax, 27@28c.

Very little desirable honey in sight. The new crop will find the market well cleaned up. The demand is always light at this season of the year. M. H. HUNT & SON.

CINCINNATI, May 17.—No demand for comb honey, also stock of it well exhausted. Extracted very dull; sales are more or less forced; lower prices from ½ to 1 cent per pound.

C. H. W. WEBER.

BOSTON, May 21.—Our market continues dull on honey with very light stocks on hand. Our normal prices are as follows: Fancy 1-pound cartons, 17c; A No. 1, 16c; No. 1, 15c; No. 2, 12@14c. Extracted from 6½@7½c.

BLAKE, SCOTT & LEE.

OMAHA, May 1.—Comb honey, extra white, 24-frame cases, per case, $3.40; No. 1, $3.25; amber, $3.00. PEYCKE BROS.

NEW YORK, May 3.—We report a quiet market on all lines. While the old crop of comb honey is well exhausted, still there is some arriving, which has been carried by the producers, evidently, for a higher price. Values are mostly nominal now, and it is only a first-class fancy article that will sell at quotation prices. We quote: Fancy white, 15c; No. 1, 13c; amber, 11@12c; buckwheat, 9@10c. Extracted is decidedly dull, and very little inquiry. Old crop of California light amber and partly white, is now being offered as low as 4½c a pound f.o.b. coast, which, of course, hurts the sale of other grades to a large extent. Beeswax is firm and sells on arrival at from 28@29c.

HILDRETH & SEGELKEN.

ALBANY, N. Y., June 1.—Honey market quiet. No stock, no receipts, and no demand now. It is between seasons. We look for good prices the coming season, for in this vicinity the foul brood has nearly exterminated the bee-keepers.

H. R. WRIGHT.

BUFFALO, May 29.—Very light trade in all grades of honey. Strictly fancy sells fairly, at 14@15c; dark dull at any price, and 8@9c about the range. Beeswax, fancy, 27@28c; dark, 23@25c. BATTERSON & CO.

KANSAS CITY, May 4.—Practically no shipments arriving, and very little selling. We are getting $3.50 to $3.65 per case of 24 sections No. 1 white; amber, $3.00 to $3.25. Beeswax scarce at 25c. W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

SAN FRANCISCO, May 22.—White comb 11½@12½ cents; amber, 9@10c; dark, 6@8 cents. Extracted, white, 5@6c; light amber, 4@4½c; amber, 3½@4c. Beeswax, 26@28c.

Market presents a weak tone, with dealers, large and small, holding off as much as possible, in anticipation of liberal offerings from producing sections at an early day. There is not much new honey now here, either comb or extracted. For some very choice white comb 13 cents is asked. New amber extracted has been placed at 4 cents, which is the utmost figure obtainable in a wholesale way in the local market for this grade.

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White Clover	90c	1.70	4.00	7.50
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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., JUNE 13, 1901.

FORTY-FIRST YEAR
No. 24.

WEEKLY

MR. R. G. HAUN AND HIS APIARY, KITTITAS CO., WASH.

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

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EDITORIAL STAFF.

GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

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OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

MR. W. J. PICKARD, of Richland Co., Wis., called on us recently, and reported quite discouraging prospects at present in his locality. Their 400 colonies require feeding to tide them over until the basswood flow.

MR. HUBER ROOT, who so faithfully and successfully managed the stereopticon at the Chicago convention last fall, will have charge of the exhibit of the A. I. Root Co. at the Pan-American Exposition. He is the youngest of the A. I. Root family, we believe.

THE W. T. FALCONER CO. and the A. I. Root Co. will have exhibits at the Pan-American Exposition, in the Agricultural Building. These exhibits will be conspicuously placed in the gallery, this gallery being reached by means of a traveling sidewalk. The two exhibits are placed together in the same booth, as it were, facing each other.—Gleanings in Bee-Culture.

OPPOSERS OF LONG-TONGUE BEES.—One of our subscribers writes that it is a "silly statement" that some bees' tongues are longer than others, but it may turn out to be a very important thing for bee-keepers, and then there may be some unpleasant eating of crow. One curious thing is that the bitterest opposition to long tongues comes from the same quarter where the most frantic efforts have been made to get bees from India just *because* they have longer tongues. Long tongues may not be of any consequence, but then they may. Let us wait and see.

MR. R. G. HAUN is one of our far-away Washington subscribers. When sending us the nice picture of his apiary, shown on the previous page, Mr. Haun wrote us as follows:

I am 70 years old, and have always led an active and laborious life. Several years ago I gave up the ranch to my two sons, and that left me nothing to do, which I consider a bad thing, even for old people. In looking around for some sort of employment suited to age and acquired habits of life, bee-keeping seemed to be the thing. First, because I dearly love it, and, second, because it would make me financially independent.

Several attempts had been made to introduce bees into this (Kittitas) valley, but each had proven a failure, and I was the first one to succeed in getting them to winter all right, and in securing a fair yield of honey. Our honey is of the finest quality when one knows how to secure it. Our first yield in the spring is mainly pollen from willow, then we have fruit-bloom and dandelion, and our surplus comes from white clover. After that there is not much to be gathered, unless one has long-tongued bees that can work on red clover.

I aim to keep from 40 to 50 colonies, in 8-frame Simplicity hives, and get an average yield per colony of between 40 and 60 pounds, spring count. There are three drawbacks to the bee-business here, namely, excessive swarming, dampness and mould in winter, and a poor market for our honey, our market being flooded with cheap honey from outside. When I first started in the business I produced chunk honey, then I changed to section honey, and now I am producing extracted honey, which candies almost immediately after being extracted.

I believe that swarming can be partially checked by giving plenty of ventilation. I do this by inserting blocks between the hive-body and bottom-board, making the space one inch to begin with, and enlarging it as the season advances, until sometimes there is a 3-inch opening in front. Then in real hot weather I give ventilation at the top.

I extract before the combs are all capped over. Honey from fruit-bloom and dandelion is a little strong, and somewhat bitter. This honey, when extracted, soon candies, and I let it candy as hard as it will, then melt it by setting it on the stove in a vessel of water, heating it pretty thoroughly, then set it away until it again candies, when I repeat the operation, and set it away in open cans covered with netting to keep out the flies, and it is not long until I have a very fine quality of honey that sells readily, and gives good satisfaction. I peddle my honey in the home market. At first I had trouble in selling it, as nearly everybody was afraid of adulteration. But as soon as people came to know me, and that I produced the honey in my own apiary, the adulteration scare helped me to sell it.

One day I opened a jar of honey for a lady to sample, and found a bee's leg in it. Several children were standing by, and I said, jocosely, "You see this is genuine honey because there is a bee's leg in it." I made the sale. I went up the street a little further, and when going to one house a little girl from the group came running into the yard, screaming, "O mamma, come quick; here is the man with genuine honey with bees' legs in it!" R. G. HAUN.

THE BEE-KEEPERS' SOCIETY of Erfurt, Germany, will hold its 50th anniversary this summer. An interesting exhibition is planned in connection with this convention or celebration. Bee-keeping of a hundred years ago is to be shown. One hundred and fifty colonies of bees will be on the ground, which will be prepared and started for the heath in Thuringia at the close of the festivities. A portable apiary of 30 colonies (wanderwagen) will also be on exhibition.

Mr. F. Greiner reports this in Gleanings in Bee-Culture. The oldest bee-keepers organization in America is only about 30 years old, and it has had its name changed several times though only "married" once, we believe. The next meeting will be held in Buffalo, Sept. 10, 11 and 12. Are you going to attend?

MRS. GEO. JACKSON, in the Bee-Keepers' Review, speaks thus about boys and girls taking up bee-keeping:

"I, too, believe that bees combine best with bees; therefore, get more bees. If you have children to help, keep *more* bees. Bring up your boys and girls in the business. Have them work, study and think, the same as they would do in preparing for any other profession or trade; for it is distinctly a business of itself, and a paying one, too. Then, why let your young folks leave home? Have plenty of out-apiaries; plenty of profit. I believe there is a better opening in bee-culture to-day for a young man or woman than in almost any other line. It is equally good for girl or boy."

ADVANCED EGGS.—An amusing mistake occurs in the Progressive Bee-Keeper. A subscriber asks how soon after a swarm has issued it will be advisable to take away the queen to let the colony rear a queen. The editor replies not to disturb the old queen till four frames are filled with eggs, that in this case some of the eggs will be far advanced; that some think that such advanced eggs as the bees would choose will not make the best queens, etc. Of course, larvæ were meant in place of "advanced eggs."

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., JUNE 13, 1901. No. 24.

Editorial.

Swarthmore's System of Queen-Rearing, as given on another page, is well worth a trial. The part that costs, as he well says, is the part after the young queen emerges from her cell up to the time she commences laying. If Swarthmore's plan proves a practical success—and it certainly has a promising look—it will require a much smaller force of bees than has heretofore been used during this expensive period, and it is the size of that force that has caused the expense. It is given now in good time for a thorough trial.

A "Large Force" of Bees—What Constitutes It?—Speaking of strong colonies, the editor of Gleanings in Bee-Culture said, "By a 'large force' I mean a colony the bees of which will weigh 8 or 9 pounds, or what would aggregate in numbers 40,000 to 50,000." Dr. Miller replied:

"Are you not a little modest, Mr. Editor, in demanding only 40,000 to 50,000 bees for a 'large force?' L. Stachelhausen says, 'I have, in large hives, many times observed that the queen had laid, during the previous 21 days, 3400 eggs daily, on an average.' Three weeks later about all the bees from that 21 days' laying ought to be on hand, making 71,400. If we count the life of a worker six weeks, then there ought also to be present bees from the eggs of the preceding 21 days. Say the queen during that time laid 2000 eggs daily, and allow that half that number had been lost by fatalities, we should have 21,000 to add to the 71,400, making 92,400 in all. Perhaps that is not often reached, but I suspect it is nearer the right mark than 40,000."

That answer seems to be carefully built, and yet it is only reasoning that such a number of bees *ought* to be present, which is a different thing from citing a case in which such a number of bees *has been* present. Editor Root returns to the charge by citing actual cases. He says that when they bought swarms by weight the average weight was 5 or 6 pounds, and some tremendous swarms that had to be hived in a two-story chamber weighed from 8 to 8½ pounds. As 8½ pounds at 4500 to the pound would make 38,250 bees, he thinks his estimate of 40,000 to 50,000 none too low. He thinks the Doctor wrong in assuming that all eggs laid by the queen are matured as bees, because bees certainly in some cases destroy eggs, and he says: "I should think we would be safe in saying that, out of 70,000 to 90,000 eggs laid by a queen, we could not expect over 40,000 or 50,000 bees." The Doctor, in reply, questions whether eggs are destroyed by bees unless queenless, and the editor closes the controversy by challenging the production of a colony of bees that will weigh more than 9 pounds, equivalent to 40,500 bees.

There are two questions of fact in this controversy that it would be interesting to have settled. What is the largest force of bees that may be secured as the progeny of one queen? That ought not to be a very difficult thing to determine by actual weighing. Certainly it ought not to be difficult to determine whether 40,000 or 90,000 is nearer the right mark. The other question may not be so easily determined. Is it true that of all the eggs laid only 56 percent mature as bees? If it is true, it would seem a very wasteful thing. But if a queen lays 3000 eggs daily for six weeks, and her colony weighs only 9 pounds, it is hard to get away from the conclusion that nearly half the eggs have been wasted.

Moving Bees Together for Winter.—In the Bee-Keepers' Review is given a picture of an apiary of E. B. Tyrrel, the space between the hives in a row being just enough to allow another hive to be placed between, the object being to move the two rows together into one solid row for winter. Before packing the bees for winter the two rows are now moved together, a little at a time, one row being moved backward, the other forward. Of course, this takes only about half the labor, and very much less than half the packing material it would take if the two rows were allowed to go through winter as in summer.

Here is another way that gets them into still more compact form:

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OO   OO   OO   OO   OO

   OO   OO   OO   OO
   OO   OO   OO   OO

OO   OO   OO   OO   OO
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Here are 36 hives in four rows, and, of course, the rows could be continued to any length. The first row of 10 hives and the second row of 8 hives both face the same way—toward the top of the page. The third row of 8 hives and the fourth row of 10 hives both face the same way—toward the bottom of the page. That makes the central two rows stand back to back. When winter approaches, the first row is gradually moved back until in a straight line with the second row, and the fourth row is moved back in line with the third row, the four rows now standing in two rows thus:

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OOOOOOOOOOOOOOOOOO
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Food of Queens, Drones, and Larvæ.—Among American bee-keepers there is a feverish anxiety for immediate results, and they pride themselves on being intensely practical, but they would have better success in the long run if they would take the trouble to inform themselves upon some of the elementary matters that have been carefully sought out by scientific men, especially in Germany. In the Progressive Bee-Keeper, L. Stachelhausen gives in a succinct manner some things about the prepared food which although by no means new, are probably new to the majority of bee-keepers. Asked whether at the time of contemplated swarming the workers withhold from the queen the egg-producing food, he leads us up to an affirmative answer by giving the following information:

The queens and drones never eat pollen, but are fed chyle by the workers, which is fully digested pollen, and is identical with the blood of the bees. They may also help themselves to honey, which is fully digested nectar. So the queen does no digesting, being entirely dependent upon the workers. This freedom from the burden of digestion, and being fed so freely with food that is concentrated and nourishing, explains how it is that a queen, whose body without eggs weighs only 0.20 grains, can lay in 24 hours 3000 eggs weighing 0.60 grains, or three times the weight of her body.

"The larvæ receive quite the same food, that is, chyle regurgitated from the stomach of the worker-bee. Nevertheless, we find the necessary difference in nourishing of the different kinds of larvæ. Queen-larvæ are supplied with pure chyle till the cell is capped in large quantities; we call this food 'royal jelly.' Worker and drone larvæ receive the same chyle during the first three days only, afterwards the food is less digested by and by, and we call this food chyme. From the fifth day, till the cell is capped, honey and pollen is fed to worker as well as to drone larvæ."

Michigan Bee-Keepers will serve their own interests if they will read the following, and follow the suggestion made:

TO THE BEE-KEEPERS OF MICHIGAN:—

I take this method of informing the bee-keepers concerning a few points in regard to the Michigan foul-brood law.

A locality must be reported to the Dairy and Food Commissioner, Lansing, Mich., before it can be inspected, and as our funds are limited it would be a great saving if the bee-keepers would work with the inspector by reporting all localities where foul brood exists, or where it is thought to exist, as soon as possible. If this is done, it will enable the inspector to plan a trip through the State and cover the whole territory to be inspected at a much smaller traveling expense. Localities first reported will receive first attention, and those who neglect to report their localities until late will in all probabilities be obliged to wait until next year for assistance.

JOHN M. RANKIN, *Inspector.*

Contributed Articles.

Early or Late Requeening of Colonies.

BY C. P. DADANT.

MR. C. P. DADANT:—In the American Bee Journal of Feb. 14, I had an article, one paragraph of which related to the introduction of queens in the fall. I said that I requeened one-fourth of my apiary last fall, and that most of the work was done in October, and the early part of November. I also said that one reason why I liked to do this work so late in the season was because the colonies were in almost every instance broodless (the printer made me say "two deep" for broodless), and that because the bees had no means for starting queen-cells I did not have to be so particular about the time of giving the new queens. I had requeened some broodless colonies as late as November in years before, and did not see but that they did as good work the following season as any other colonies in the yard.

On the same page (102 are given Dr. Mason's views regarding the best time to requeen an apiary. He says that just as the honey-flow is closing up, and before it closes, is the best time to requeen an apiary, and gives as a reason that the bees must have the vim and energy they have when the honey-flow is on.

Now, if I am very much in error in preferring to do the work later in the season, I would like to know it, and the reason why.

I write this to request that you give your views and experiences on the subject of the best time to requeen an apiary, in the columns of the American Bee Journal. I want particularly to know what disadvantages, if any, result from late requeening? EDWIN BEVINS.

Perhaps I am hardly fit to pass an opinion. I will frankly acknowledge that I never did but once change queens in any of my colonies late in the season, either during or after the flow. I have always allowed the bees to do their own "requeening," except in cases where the queens were infertile or of impure blood. At the time when we were breeding Italians for sale, this had quite an importance. But since we have been keeping bees only for honey, we have had less reluctance in allowing the impurely mated queens to live, if they are prolific. My reasons for not requeening an apiary, when the queens become old and possibly near their decrepitude, date back a good many years. I will have to tell you how this came about.

The much lamented Mr. Quinby, about 1868 or 1870, invented what was called the "queen-yard." It was a shallow square box, set in front of the alighting-board of each hive, walled with tin about four inches high, and with a tin edge projecting inward horizontally all around, to prevent swarming. The queen's wings were clipped so that she could not possibly jump over the walls of the queen-yard, and as the tin projection prevented her from climbing out, she was practically a prisoner in the front yard of her own hive. This was securing the same result which is now secured with the queen-trap, but with the greater convenience for the bees, of having nothing in the way of their flight or of their free access to the hive for ventilation, etc. The only objection was that the queen's wings must all be clipped.

We used this queen-yard largely, and it was owing to this method of clipping queens' wings that we ascertained how readily the bees would supersede their old queens without the knowledge of the apiarist. Often, yes, in many cases, we find that the clipped queen had been replaced by a younger one, without our even suspecting the change. And yet, at that time, we were very prone to examine the hives from end to end on the slightest pretext. We spent more time then on one hundred colonies than we would think of spending on 400 to-day. But I must say that it paid, in dollars and cents; for the extra attention was rewarded by extra results.

The reader will now perceive why we did not practice requeening. We found that in many instances we might be destroying young queens which the bees had reared in anticipation of the old age and failure of the mother.

But requeening is certainly a very good method, if it is not carried to extremes, for inferior stock may thus be replaced by selected stock from the very best colonies. Only I would not limit this to any particular moment, but would do it whenever I had a stock of good queens to spare.

The methods pursued by Dr. Mason and Mr. Bevins, as mentioned at the head of this article, both have their good points. The only objection that I can find to that of Mr. Bevins is the possibility of a shortage of drones, if we wait till the season is nearly over. One time, years ago, we had occasion to sell ten tested Italian queens after the end of the harvest, some time late in October. We had no queens except in full colonies, but as the price was high, we did not hesitate to remove that number, expecting the colonies to rear young ones, and they did. But by the time our queens were ready for fertilization the drones must have been too scarce, although we had taken pains to keep all we could in a few queenless colonies, for not one of our young queens was fertilized, and the following spring we had ten drone-layers of the very best quality in ten of our very best colonies. And, by the way, let me here remark that this is a very good way to have early drones. We took advantage of this to rear early queens, and they were all purely mated before the impure drones hatched in our neighborhood. The possibility of the queens failing to mate seems to me to be the only really strong argument against requeening an apiary late in the fall.

There is perhaps another objection arising from the difficulty of manipulating hives much in cool weather, and when robber-bees are as alert as they generally are at that season. But these objections fail to embarrass a practical apiarist, because he will take his time, and use enough precautions to avoid disturbances. In out-apiaries, however, where a man can give his personal supervision only at times, I should not like to do much of this handling after the honey crop has ended.

I would suggest that the most economical plan to requeen would be to rear queens more or less during the entire season, and requeen as we go. If, however, we choose to do it all at one time, I would hardly wait till all the brood was hatched out, unless the season was particularly favorable, and we could make sure of securing a sufficient number of drones as late as desired. Since Mr. Bevins has succeeded, it shows that the thing can be done, and it has the advantage of not disturbing the bees during the crop. If the queen is removed before the end of the harvest the brood that hatches out will give room for honey in the brood-chamber, and quite a portion of the crop may be placed there, out of the reach of the apiarist, unless he resorts to the extractor. Hancock Co., Ill.

Scientific Names—Mellifera Not Mellifica.

BY PROF. A. J. COOK.

WE have all become used to the name, Apis mellifica, to designate the honey-bee. Some will wonder why we change to "Apis mellifera." The specific name in both cases comes from the root for honey, and either would seem appropriate. Why, then, give up a name which has been so long in use, for one no more apposite, and which is an entire srtanger to us?

Our present method of naming animals and plants was originated by the great Swede, Linnæus. It is called the binomial system of nomenclature, as two names are always used in designating plant or animal. Thus we have the generic name and the specific name. In the honey-bee the generic name is Apis. This is broader in its significance than the specific name. We have Apis dorsata, the great bee of India, as well as the ordinary honey-bee, of which, as we well know, there are many races.

The specific name, on the other hand, refers to only one kind of bee. All the individuals of a species will be very nearly alike. Where any species is placed under varied conditions the individuals will tend to vary, and thus we have what are known as races. In our domestic animals, where man places them under such very different circumstances, they will vary much more than they would in nature, and so races are very common among our domesticated animals.

I think the races of our bees—Italians, German, or black, etc.—were generally formed by nature alone. The races will have habits and general peculiarities that are much more similar than will the different species. I think, too, they will be more apt to vary in their own characteristics. Our dogs and horses are good illustrations of the variations often seen in our domesticated animals. All dogs are one species—Canis familiaris. Yet how different are the poodle and the Saint Bernard, and how numerous and how varied are all the intermediate breeds. Our horses, likewise, are one species—Equus caballus. We all know how wondrously different are the individuals of the horse species. The Shetland pony and the Norman well illustrate what a different environment with careful selection may do in modifying a species. The old idea that only animals of the same species would interbreed was found to be untrue. The mule—a cross between the donkey and the horse—two obvious species—made it necessary

to modify the old notion. But as we all know, the mule is infertile. It was then stated that only animals that would interbreed and the offspring prove fertile belong to the same species. I think this is pretty generally true among the higher animals. But I think there are numerous exceptions among the lower plants and animals. I think there are cases on record where different genera interbreed, and the offspring are fertile. Of course, such cases are very rare.

As we understand from the above, the nature of a genus and a species, which may be better understood by comparing them to our own names, the genus standing for our surname, and the species for the given name, we are now prepared to discuss the change of name in the honey-bee. This change of names, not only of insects but of all plants and animals, is very common. I know of some insects where the names have been changed two, three, or even four times during the last few years. It comes about in this way:

Two or more persons describe the same insect or other animal. Of course only one of these names can be selected. It has been decided that only the first name should be adopted. It is unfortunately true that sometimes the first name and description appeared in some obscure publication and were for a long time unknown. Therefore the second, third, or even fourth name was for a long time used in speaking of the insect. After a time, it may be for years, some one discovers the name and description, given third in order, we will say. Of course the old name gives place to this. Afterwards the second one may replace this, and finally the first and rightful name is unearthed and manifestly this takes precedence of all others. It is obvious that this frequent changing of names is a great hindrance to science, and a tremendous annoyance to the student; yet it is certainly the lesser of two evils.

It is now stoutly urged that every first description of an animal, where, of course, the name will be given, be published only in some standard scientific paper that every student of the science may have ready access to it, and may know of its existence. It is also equally important that every person in naming an insect and describing it take all possible diligence to make sure that the same species has not been previously described.

The father of this system of naming, who may almost be said to be the father of both botany and zoology—Linnæus—was the first to describe our honey-bee. He described it as Apis mellifera, and so, of course, this name has priority and must be accepted. Three years later, he described the same insect again under the name Apis mellifica, the name which has been used ever since. It is strange that the same person should describe the same insect twice under the same name, yet when we remember the amount of work Linnæus did, and the astounding number of descriptions he made, it is not strange that he should have forgotten that he had made a description, and so should have named and described the same animal or insect a second time.

It is to be hoped that all our bee-papers as well as writers, will make a point of bringing this new name promineutly forward, that very soon it may seem as right and natural as the old one. We are certainly fortunate in the name, which means honey-bearing. This name, then, will suit those nervous people who proclaim in the face of the truth that the bee simply gathers honey and does not produce it. Neither is the truth maligned in this new name, for although honey is certainly a digested product, and so is produced by the bee, we can still say that the honey-bee is a honey-bearing insect.

So hereafter we will all unite in the name Apis mellifera for our pets of the hive. Los Angeles Co., Calif.

The Swarthmore System of Queen-Rearing.

BY "SWARTHMORE."

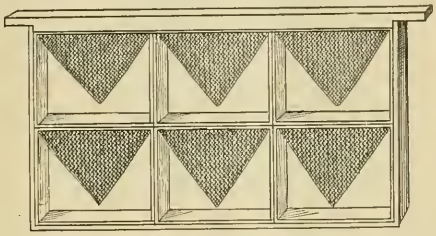
A GREAT deal has been written, said and done to simplify and cheapen methods for cell-getting, until now queen-breeders have about all that can be desired in an almost perfect system of cell-work, from the egg to the mature queen, her care after hatching, and all that. But cell-getting is not the expensive part of queen-rearing; in fact, it does not represent an eighth part of the work connected with the securing of a laying queen, ready for posting to the customer far or near.

The *great* expense in queen-rearing is that necessary for the proper fertilization of the young queens after they are reared. The queen-breeder, heretofore, has been obliged to tear asunder large numbers of full colonies to form nuclei of a frame or two each to receive the young queens, each in a seperate colony for mating purposes only.

Now, all this is expensive—not alone in bees but in time, labor, care, and a hundred other ways. Full colonies are ruined, and all revenue from bees thus treated is entirely cut off until a laying queen is secured, sold, caged and mailed. All this woeful waste has set me to thinking about a plan of operation to lessen the expense and labor in queen-rearing at the mating period.

Some years ago I succeeded in mating a number of queens from 4¼x4¼ section-boxes, each supplied with a teacupful of bees; but not until the past season have I been able to say that I have discovered a practical method of mating young queens by the section-box plan, although I have used them now for about 13 years.

The plan I have at last adopted is as follows: Hive a good-sized swarm (natural or forced) into a body containing ten all-wood or Simplicity frames, each frame filled with 4¼x5⅔x1 inch one-piece plain sections, thus:



FRAME WITH FOUNDATION.

Each section should be supplied with a starter of brood-foundation, as shown, and the frames are set rather close together until fully drawn out by the bees. Unless honey is coming in rapidly the bees should be fed constantly during comb-construction, in the event of the swarm being a forced one.

In a few days a good, prolific queen will have filled the most of these little combs with eggs, and in due time it will be found that each little comb has its supply of brood, honey, and bee-bread—the exact condition necessary for the successful formation of nuclei for queen-fertilization.

At this point take away all the section-holding frames, supplementing them with full sheets of capped brood, honey, etc., taken from other colonies; put on the surplus arrangement, and close the hive. That colony will yet show you honey before the end of the season; even though you have borrowed every particle of their work from the time of hiving. Let them work on; you will not need to molest them more.

Remove the section-holding frames now clear of bees, just as taken from the hive, to the honey-house, and adjust

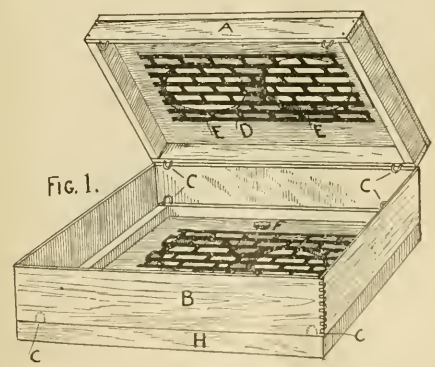


Fig. 1.

TOP OF FERTILIZER NUCLEUS-BOX.

A, lid; B, section box frame; C C C C, hive-staples, for guidance D, perforated zinc; F, cork in flight-hole.

to each side of each little comb, containing brood, a cover made of the stuff, with ¼-inch strips nailed all around the edges; as shown at A, Fig. 1. Four small staples, C C C C, driven part way into each corner of the lid, so as to project or telescope into the section-box, will serve to hold the lids in place until they have become glued a bit by the bees.

When the lids are all in place, each little comb will be in a compartment by itself, and each compartment may be entered by the bees through the perforated zinc that covers the two 1¼-inch auger holes in the center of each lid, as shown in the drawing, E E, Fig. 4. The zincs are nailed

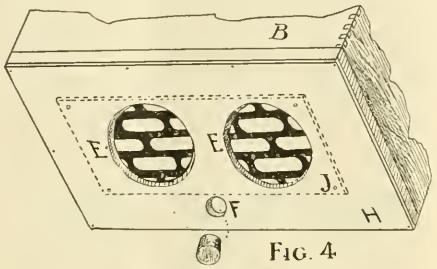


FIG. 4.

BOTTOM OF FERTILIZER NUCLEUS-BOX.

Fig. 4 is a view of the under side of H, showing holes uncovered; B, part of section-box; E E, holes covered inside with perforated zinc; F, flight-hole uncorked; dotted lines show position of thin board when excluder-holes are covered.

fast to the inside of each lid. Pieces of section stuff do very well to close the zinc-covered holes when occasion demands (see dotted lines in Fig. 4). A ½-inch flight-hole is cut just below the two large holes in one lid only. This is stopped with an ordinary druggist's cork, which is easily drawn when queens are to be introduced.

Now run a perfect-winged and sound-legged young virgin queen into each compartment; then recork the flight-holes and expose the zincs on all sides so that the bees can readily enter all the compartments from the sides, yet no queen can leave the compartment in which it is intended to restrict her. Then hang the frames in the hives of such bees as you may have just used in getting a batch of cells, or any queenless and broodless bees you may have at hand. Be careful, however, that there is no sort of queen with them, virgin or otherwise; and if they have been over three days queenless, a little tobacco smoke should be used.

A very simple way of supplying the compartments with young queens is to attach a ripe queen-cell to each comb before adjusting the lids; then hang the frames among queenless and broodless bees with flight holes corked, and zincs exposed. The bees will at once occupy the compartments, and in due time a young queen will hatch inside each compartment.

Any queenless bees will soon enter the compartments, and care for the brood and queens; and as soon as they become settled, feeding may begin. Feed a little sugar syrup (no honey) each day; and at the end of the fifth, if the weather is fine, remove the frames carefully, bees and all. Close all the entrances so none can escape from the compartments. If the weather is very warm, cover the holes on the flight side with wire net, as shown in the

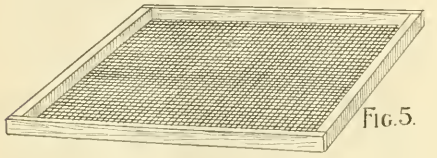
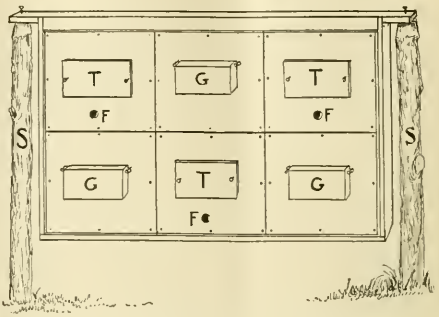


FIG. 5.

ALLEY CONFINING-SCREEN.

engraving, taking in as you do so, as many bees, that may be on the outside of the boxes, as possible.

Take these frames some distance from the old stand, and set them out separately on stakes driven into the ground, thus:



SWARTHMORE'S FERTILIZING-FRAMES, WITH NUCLEUS-BOXES IN PLACE.

Toward evening open the flight-hole to each compartment—three on one side and three on the other, as shown above by the letters F F F. If the next day or two be fine, each and every queen will leave its little chamber to mate, and just as large a percentage will return safely as by any method of nucleus management now in vogue. The life of these little colonies may be sustained several weeks by feeding lozenges of "Good" food every three to five days. Press the food into the holes at the back of each box. The blocks of Benton mailing-cages may be filled with "Good" food attached to the back of each compartment by two staples driven into the ends of same and hung on two cor-

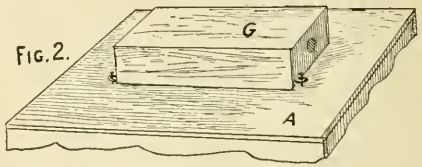


FIG. 2.

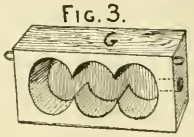


FIG. 3.

TOP VIEW OF COVER.—G, food feeder.

responding wire-nails driven into the back lid, as shown in engraving at G, Figs. 2, 3.

Examinations for eggs may be made quite well through the back-most holes, which are easily uncovered by unhooking the Benton-cage feeders; and when it is found that the young queens are laying, they should be removed and other young virgins supplied; or the frames may be again collated and placed on a single stand where the laying queens will keep in good health for an indefinite period.—Gleanings in Bee-Culture.

Bees and Fertilization of Blossoms—Other Comments.

BY ALLEN LATHAM.

ON page 262, is an important as well as interesting article on the subject of bees and the fertilization of fruit-blossoms, by Thaddeus Smith. This article is bound to raise a controversy if not hot words. I hasten to put in my word in support of the writer in hopes to stem the wrath to come from the other side.

Provincetown, Mass., is the town at the extreme end of Cape Cod Peninsula. The land here is from one to two and one-half miles wide. It is swept by sea-breezes almost all the time. It is thus a poor place to keep bees. No bees at all are kept, as far as I can find. I have my summer cottage there, and in the two summers that I have spent there I

have not seen a single honey-bee. Right in front of my cottage is a fertile meadow in which the white clover stands nearly knee-high. Many bumble-bees may be seen on this, but not a honey-bee.

You naturally ask what this has to do with the matter which I began with. Just this—that region is extremely fruitful. Never have I seen small fruits in such abundance as there. Bushels of wild strawberries are gathered in June, while in July the shadbush berries fairly bend the bushes to the ground. There are blueberries, huckleberries, blackberries, raspberries, wild cherries, and last but not least, beach-plums. The shadbush berries, or Juneberries, or sugar-plums as they are known in many places, or as they are called in Provincetown, "juicy pears," are the most wonderful fruit (unless I except beach-plums) I have ever seen wild. I left the cottage one day to get some for pies. I was gone less than an hour. I rode on my bicycle awhile, then walked one-third of a mile, then picked two five-pound honey-pails full, then walked and rode back. You can see from this how thick the berries are. I have seen the smaller bushes lying flat on the sand, dragged there by the weight of the fruit. One could easily gather a bushel in an hour.

But, oh, the beach-plums! The sand-hills are covered with the scrubby plum-bushes; and the bushes are loaded with the plums. The Portuguese women and children gather these plums by the bushel. The plums are about the size of cultivated cherries. I have seen a cluster of these plums that would yield a pint or more at two scoops of the fingers. One small bush the size of an ordinary currant-bush will often yield four or five quarts.

Now how do these fruits form if there are no bees there? I shall not attempt to answer that question. I merely state the facts as they are, and ask how it is done.

KEEPING QUEENS OVER THE WINTER.

The question, "How can I winter my surplus queens?" is often asked. Though I can offer no easy way of wintering a large number, I can tell how one or two choice queens can be saved. It not infrequently happens that a bee-keeper has an extra queen or two which he would like to winter. More than that, he can often profitably use such queens in the spring. Many a time have I had a fine, strong colony in spring queenless. Unless a queen can be given, that colony is not of much value. With a queen it will be ready for the June and July harvests.

Last fall I had two surplus queens of excellence. I could not think of killing them, but I had no colony without an equally good queen. I still have those queens in good health. I took from two strong colonies two frames each of brood with adhering bees. I placed these in a hive prepared as follows: A tight partition was put in the middle of the hive lengthwise, the partition extending into the portico of the hive. In each side I placed a cushion of such thickness as to allow two frames between it and the partition. The four frames spoken of above were disposed of in this way. I gave each side a queen. Most old bees flew back to the parent hives, only a pint or less remaining in each side.

The care of the hive was then the question. All through October and November (the nuclei were made in September) I either placed a heavy carpet over the hive on cold nights or carried it into the kitchen. The hive had been set close by the back door. On cold days the carpet was left on the hive. When settled cold weather came the hive was taken to the cellar and placed close to the hot-water heater with the entrance away from the light. Here it had a temperature of about 50 degrees. When a warm spell came the hive was put out so that the bees could fly. There were two months in which the hive was not touched. The bees did not get restless. They came through with small loss in numbers and are breeding up slowly. It so happens that none of my queens died last winter. I shall try to build the little colonies up. They were put out in March, being carried into the kitchen in cold spells. The entrances are provided with screens.

You say, of course, that this is too much bother. There is work in it, but it is that pleasant puttering work that every bee-keeper loves. More than that, it will save the lives of valuable queens, which in turn may save the existence of valuable colonies.

LONGEVITY IN BEES.

I am glad to see a word from Mr. Doolittle in regard to long-lived bees. Prolificness at the expense of strength has been too long the vogue. We have all had a colony occasionally that had its frames packed with brood. We have fondly looked for great results. They did not come. The colony failed to gain in numbers though the frames were kept full of brood. All the honey gathered went into more bees—more *short-lived* and *worthless* bees. On the other hand, we have seen a colony with only five or six frames of brood. We have turned from it in disgust. Behold that colony a month later. Still only five or six frames of brood. But where did all those *bees* come from? They crowd the hive and they have stored two cases. Those are *long-lived* and *the-right-kind* of bees. Let us rear that kind. I do not mind if they have ten frames of brood, but let the bees be long-lived.

I scarcely need to say more in favor of long-lived bees, but will offer a few more words. It is easy to see why these bees are of so much more value than short-lived bees. First of all they winter well, coming out strong in the spring, and do not spring dwindle. A single bee is worth two or even more of the other kind. Why? In the working season let the short-lived bee live six weeks, the long-lived one nine. Each costs the same to rear. One works from two to three weeks, the other from five to six. The short-lived bee is a *provider* about one week; the long-lived bee is a *provider* about four weeks. Do we not find the secret of a honey crop right here?

I have a colony that has bees which winter and then give noble aid in filling the first sections. I honor those bees. They are my pets. Norfolk Co., Mass.

No. 6.—Practical Lessons for Beginners in Bee-Culture.

BY J. D. GEHRING.

(Continued from page 343.)

NOW, see here!" began Mr. Bond. "I am not the least bit sure that I can remember all the things you have been telling me to-day; but I am here to learn all I can. You shut me off twice when I asked questions—or put me off, rather. Now, I'm going to ask some more questions, and I think you ought to answer them right on the spot.

"First, then, you've told me all about putting supers on this hive until you had five of them on, all in a pile. I'd like to know what you do that for. I can see no sort of sense in it. To me it seems like boy's-play to lift off and then lift back again a whole stack of supers weighing 28 pounds each. Now, tell me, if you please, what do you do such a cranky-looking thing for?"

"I am glad to have an opportunity to enlighten you on that subject, Mr. Bond," I replied. "But first I will inform you that the cranky-looking performance isn't boy's-play at all, in any sense of the phrase—surely not the lifting part of it; that you can readily see for yourself.

"You will not object to my using an illustration that must be familiar to you, in order to impress my answer to your question upon your mind so that it will stick. Well, you know that hens will always choose a nest to lay their eggs in which has at least one nest-egg in it—the more the merrier, in fact. They will generally avoid an empty, or an unused nest; and hence the fact has been generally accepted by poultry-men, and poultry-*women*, especially—that it pays to furnish the nests with natural or artificial nest-eggs. The women, at least, think that it encourages the hens to lay. I must confess, however, that I have never known a hen to lay more than one egg a day on that account. And I presume you can say the same, Mr. Bond."

"That I can," he replied. "But, for all that, I can't quite see the point where the illustration applies. Some illustrations don't illustrate, you know. I've heard lots of that kind preached. But, of course, bee-keepers aren't preachers."

"Well, perhaps there is no point for you to see, and my effort is lost," I replied. "I shall therefore give you my answer ungarnished:

"The fact is no invention or discovery of my own, that bees will work better and carry in honey faster when they have lots of it stored in the hive. Bearing this fact in mind, it has become the regular rule with many bee-keepers to 'tier-up' the supers on their hives as fast as the bees fill them, and to take none of them off before the honey-flow is played out.

"Those who have been doing this, year after year, have become satisfied that it pays to do it; and that it doesn't pay to do otherwise.

"Of course, I am aware that there are bee-men who stoutly maintain that there is no difference; that they have

always been in the habit of taking the honey off the hives as fast as the bees finish the sections in the supers, and that the bees always begin to work promptly in the empty case, put on in place of the one that was removed. But, you see, such testimony doesn't weigh a feather, because it is one-sided; for, if those bee-men have never thoroughly tried both ways, they have no right to say that there is no difference.

"Now, Mr. Bond, I am fond of testing things, for the mere sake of the thing, sometimes. Hence, when I read about 'tiering-up' the supers, leaving them all on until the end of the honey-rush because of several reasons given, I at once tried it. But, in order to test the trial, I made a few experimental observations bearing on the questions. One of these was a case where one of my colonies had gone out on a strike, as it were. They, for reasons known only to themselves, refused to work. All the other colonies in my apiary were rushing the honey into the supers at a lively rate. Some of them had filled from one to three supers each, while this balky one had not even drawn out the foundation in the sections of the super on their hive. I had tried everything I could think of to induce them to "get a move" on themselves, but without the result sought. It was a strange case, for the hive was full of bees—even the super was full during the day-time—and the eight frames were solid with brood and sealed honey.

"Well, sir, I don't now remember how the idea came to me—whether I dreamed it, read it in the bee-papers, or heard it related at a bee-keepers' convention—but, at any rate, I did this:

"I opened that hive one beautiful morning and took their empty super away from them. Then I took out two frames that had more brood than honey in them, and gave them to another colony, from which I took, instead, two frames nearly filled with honey, some of it unsealed, and put them into the hive of lazy bees. Next, I took out the frames that had the most honey in them, and with my honey-knife shaved off the capping, thus unsealing a large patch on each frame. This drastic proceeding set a lot of honey loose, of course; but it also broke up the strike. I watched them nearly the whole of that day, and I tell you, Mr. Bond, I had to laugh out loud to myself several times to see those bees hustle themselves to keep that loose honey from going to waste. Of course I was on the look-out all the while to prevent any of the honey from running out at the bee-entrance and tempting other bees to come and investigate matters.

"The next morning those bees went to work in the super, which I had replaced the evening before; and they didn't let up until the end of the honey-flow, when they had filled two supers, and a third partly.

"Another experiment I made—no, I beg your pardon, it wasn't an experiment, but an experience—and it happened in this way:

"Before I adopted the tiering-up system I always put on only one super at a time, and then looked through the glass in the side to see when the bees were sealing the outside sections. When I saw them do that I took that super off and gave them an empty one. Well, I had often before noticed, when I had performed this operation, that there was a very marked slacking-up of work in those hives from which I had taken full supers; but I did not stop to study about the cause. It was not until that same season when I learned how to break up a strike in a colony that I took particular notice of this streak of loafing, or sulking—I am not sure which it was.

"When I was taking off full supers one morning I found that one of the colonies had put in spare time in building brace-combs between some of the frames, and had extended that kind of work to the top of the frames, for I found that they had filled the space between the brood-frames and the bottom of the super almost solid with honey. Well, in taking the super off, this extra arrangement was of course broken up, and a lot of honey let loose.

"There were several important things about bee-keeping which I hadn't then learned yet, hence I was not aware of the fact that those bees did that extra job because they were short of honey-storing room for several days before I thought it was time to give them a fresh super. Thinking, however, that the extra comb had to be removed before a fresh super was placed on top the frames, I took the honey-knife and bee-smoker and went at it. It was a sweet job of work, now I tell you! But I got through with it without getting more than a dozen stings on my hands; and then put on the super, and cheerfully closed the hive.

"While doing that little job of work, Mr. Bond, I learned something that was new to me. When I first began slashing into the comb with my honey-knife I got quite a number of hot stings on my naked hands; As I proceeded, my hands became daubed with honey, and I noticed that the bees did not attempt to sting where there was honey. Taking the hint, I daubed honey all over my hands, with the result that I got no more stings doing that job.

"This recipe I throw in extra, without cost. You can tell by trying it—should occasion call for self-defense some time when you find it necessary to do such work—whether it will pay for the wasted honey or not. There are occasions, you know, when a bee-keeper can't keep his hands in his pockets and yet do the work that calls for their use."

(To be continued.)

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Building Up Colonies.

My bees wintered well—47 colonies out of 49. A few of them are very strong. What is the best way to build them up? Give them a frame of brood from a strong colony, or exchange hives in the middle of the day when the bees are flying the strongest? ONTARIO.

ANSWER.—Take from a colony that has five brood or more, leaving it only four frames of brood. Do not give these frames of brood to the weakest colonies at first, but give a frame to each colony that has only three frames, until these are all supplied, then give to the weaker ones. Take the adhering bees with the frame of brood, but be sure you don't take the queen. If you give more than one frame to any colony, let them be from different hives, for if you should give two frames with adhering bees from the same hive it would endanger the queen.

Filling Combs With Syrup for Feeding—Fastening Queen-Cups.

1. I am the newest and "greenest" of bee-keepers. On page 310, Allen Latham writes of filling brood-combs with sugar syrup from a coffee-pot at the beginning of the apple-bloom. How does he hold the comb during the operation—upright, as it is in the hive, or does he turn it from side to side?

2. In making queen-cups a la Doolittle, I suppose the bottom, *i.e.*, the thickest part of the cup, is fastened to the stick, is it not?

3. My bees pay no attention to the syrup I try to feed them. How shall I get them to notice it?

MRS. BEE-KEEPER.

ANSWERS.—1. You are no greener than the rest of us have been, but are perhaps a little smarter in finding out sooner your greenness. You are very wise to pocket your pride and ask questions that may betray some degree of ignorance. When you do not find instruction in your text-book upon any given point, you may gain that instruction through experience, but sometimes that is expensive, and by asking questions you not only gain the desired information for yourself, but help others as well.

Mr. Latham gives no particulars, but you may be sure he does not have the comb hanging, as in the hive, when filling it. Lay it flat in a tub; pour the syrup into it from a height of three or four feet, and the fall from such a height will make the syrup force its way into the cells. It will work better if the syrup is hot, but you must look out not to melt the comb. When one side is filled, turn the comb over and fill the other side. Then hang the comb in a hive-body that stands over something to catch the drip.

Years ago I fed many gallons of syrup in combs, and to make the work easier I had hung three or four feet above the tub a large baking-powder can, or something of the kind, the bottom of the can being punched full of nail-holes, the holes being punched through *from the inside*.

With a pitcher in one hand I poured the hot syrup into the can, while the other hand kept the can moving about over all parts of the comb. Having the can thus suspended by strings made it much easier.

2. Yes, mouth down.

3. Generally there is no trouble in getting bees to take syrup whenever they can reach it. Perhaps it was too cold weather for them to leave the cluster. Sometimes they will take hot syrup when they will not take the cold. The nearer the cluster the surer they will be to take it. If put in combs they will be sure to take it. For fear of starting robbing, don't give the combs till nearly dark.

Probably Superseded the Queen.

I have a colony of black bees to which I introduced an Italian queen last July, and in the fall they were mostly yellow bees, but this spring they are almost as black as ever. What is the cause of that? MINN.

ANSWER.—It is quite possible the bees may have superseded the Italian queen with one whose progeny is darker. It is even among the possibilities that a queen from outside may have gotten in, but such a thing is not at all probable.

Material for Cell-Cups—What to Feed to Work Them Up.

1. In making cell-cups for queen-rearing, what is the wax mixed with?

2. In the dry season when the bees will not work up the cups, what is best to feed them so as to induce them to work them up? JAMAICA.

ANSWERS.—1. The wax is not mixed with anything, but used pure.

2. Nothing is better to stimulate bees to work than honey, unless it be a mixture of honey and pollen. In the absence of this, a syrup of sugar does very well.

Dividing for Increase.

1. I don't care to let my bees swarm. Would it be safe to take one, two, or even three frames of brood from each hive, and when I get 10 frames put them in a hive, making sure that I have not taken a queen from any of the hives? Does it make any difference if there are any bees on the brood-frames? Do you think the bees would fight with each other, because there will be bees from different hives, such as Italians, blacks, and Hybrids, or would you brush the bees off when you take out the brood-frames?

2. What would I do for queens for each new colony thus made? COLORADO.

ANSWERS.—1. It will be safe to take one to three frames of brood from each strong colony so far as those colonies are concerned, but very unsafe for the brood if you take no bees with the brood. Even if you take with each frame all the adhering bees, all but the youngest will return, and you may not have enough bees to protect the brood. There will be no trouble as to bees from different colonies fighting if this is done when honey is yielding well. But taking one, two, or even three frames of brood from a colony of bees will by no means make it a sure thing that there will be no swarming. To make sure that there will be no swarming, you must take all the brood away. One way is as follows:

Suppose two colonies, A and B. Take all the brood from A, brushing the bees back into the hive, and replacing the frames of brood with frames of foundation. To prevent the bees from being too much dissatisfied, leave one frame of brood, to be taken away a day or two later. Put these frames of brood into an empty hive, and put it on the stand of B, putting B in a new place. This should be done early in the day, the earlier after bees are flying the better, unless you take the time when bees are having a play-spell after dinner, which is the best time of all. For a day or two all the field-bees of B will return to the new hive. A will not swarm, but the case of B is not so sure.

2. You can buy untested queens for a reasonable amount, and you will do well to have your queen on hand before forming your new colony. Or, you can in advance rear queens as instructed in your text-book. If you have no good text-book on bees, by all means get one at once and make a thorough study of it. It is hardly a safe thing to do much in the way of artificial increase without some knowledge of the whole field of bee-keeping as given in the bee-books. Even if you have explicit instruction just what to do, some unforseen incident will occur, and if you have no general knowledge of the subject some little thing may knock all your plans endwise.

You will do well carefully to examine back numbers of this journal also. See pages 345, 328, 312, 297, 264, etc.

Convention Proceedings.

(Continued from page 357.)

Report of the Minnesota Bee-Keepers' Convention.

BY DR. L. D. LEONARD.

SECOND DAY—FORENOON SESSION.

The first thing on the program was Pres. West's address, read by Mrs. Acklin, as follows:

PRESIDENT'S ANNUAL ADDRESS.

The Minnesota Bee-Keepers' Association was organized at Minneapolis about eight years ago, by a few determined and loyal bee-keepers, under the laws of Minnesota. Wm. Urie, Wm. Danforth, and B. Taylor, successful bee-keepers who have since passed to their eternal homes, were present at that meeting. There had been previous attempts made to organize, and meetings had been held; the Association got into debt, and was in bad repute. Under the present management the debts have been paid, and there is a surplus in the treasury.

Compared with other societies in importance, ability and influence for good, our Association stands in the front ranks. It is now a strong and vigorous society, having increased its membership, which includes some of the most noted apiarists in the West. When thoroughly organized the society at once took steps to put the honey department at the State Fair—which had become a disgrace to the bee-keepers of the State—under the supervision of honest bee-keepers. From that time until the present that department has gradually grown in size, quality and importance—in fact, no department of the State Fair has shown such marked improvement with the same amount of money expended.

Through the influence of this society a grand exhibit of the products of the little "busy bee" was made at Omaha, which demonstrated that the finest honey—as well as butter—comes from the *grand, young* State of Minnesota. The exhibit was a grand surprise to every one, and won great honors for Minnesota. Exhibits were made by some of our bee-keepers which scored 100 points.

Through the influence of this society a law was passed by the State legislature, making it a crime to sell or offer for sale adulterated honey, unless the package containing the same is marked, represented and designated as such. The enforcement of this law by the State Dairy and Food Commissioner has been of great benefit to the honey-producers of Minnesota, and his report upon this subject made in January, 1899, is quite elaborate. Our influence has also been felt among the commission men of the twin cities, and good has resulted therefrom for the bee-keepers of the State.

Organizations are necessary in all branches of industry, to protect and educate those engaged in such industry. No bee-keeper has arrived at that stage of perfection and success in his occupation where he can afford to dispense with the benefits derived from such an organization as this. Here we meet for friendly discussion and mutual profit.

The rapid advancement of apiculture during the past 50 years is in keeping with the rapid strides made in all other departments of life where genius and invention have been developed, due to the energy, enterprise, and self-sacrificing labors of such men as Father Langstroth, Moses Quinby, Adam Grimm, Capt. J. E. Hetherington, Lyman C. Root, Edwin France, Chas. Muth, H. R. Boardman, G. M. Doolittle, P. H. Elwood, A. E. Manum, Prof. A. J. Cook, Dr. A. J. Boardman, Dr. A. B. Mason, Chas. Dadant, D. A. Jones, W. Z. Hutchinson, Dr. C. C. Miller, A. I. Root, E. R. Root, and a host of others, whose bright and inventive minds and consistent lives have made, or are making, the bee-papers of to-day superior to the papers printed in the interest of any other line of business. What other branch of learning or occupation has had such honest, heroic, self-sacrificing, devoted and eminent workers? Their influence and superior qualities of heart and mind have blessed all other departments of life in

which they move. And what a pleasure it is on such an occasion as this to speak kindly of them, and to accord them a high place in our history!

Instead of the old straw hive and the log gum the invention and skill of Father Langstroth have given us the frame so admirably adapted for the home of the ever busy bee, wherein every kind of manipulation and theory are developed, and from which all other hives in a measure have been evolved. The large, unwieldy and unmarketable honey-boxes have given place to the white and beautiful one-piece section—a convenience and blessing to the apiarist, and which in its simplicity and cheapness is within the reach of all. From the swinging of the dinner-pail in which there was a piece of comb honey, around and over his head, by the ever restless and uneasy boy—which operation his father noticed threw the honey outward of the comb—came the honey-extractor now so generally used, a great help to every well-cared for apiary, and indispensable to its success, as is also its companion, the honey-knife. Comb foundation, and the foundation-press by which it is made, are also great inventions, and universally appreciated by the successful apiarist.

Then comes the little queen-cage with candy—a great improvement and source of profit—a means by which the queen—indeed and in truth the most wonderful and interesting of all insects known—is transported from all parts of the globe, and we have thus been able to improve our race of bees. The drone-trap, the self-hiver, the self-swarmer, the queen-excluder, and the Doolittle method of rearing queens: the honey-board, the wax-extractor, the queen cell protector, wired frames, the foundation-fastener machine, bee-feeders, bee-escapes, swarming devices, the smoker, the drone-excluder, separators, and the improved method of procuring comb honey; and very many other improvements and devices help to make the labor easy, successful and more profitable, and are valuable helps to energetic apiarists in some department of this most interesting occupation.

Invention, then, as we look at the old log gum and straw skep, and as we remember the sulphur pit where the faithful and innocent little creatures were murdered for their stores, in days gone by, has performed wonders for our occupation, and for the comfort of the noblest little creature which God has given to man.

The tendency of our occupation, then, like all other in such hands, is upward, and toward the light. This is an age of intense activity and progress—the tide is fast bearing us onward and upward. Some are wishing for the good old days gone long ago, but these are the best days since the stars first sang together, since the Messiah was found in the manger, and I, for one, am glad I am living now. Bee-keeping is wonderfully interesting and fascinating to the successful apiarist. It brings us in contact with one of the most wonderful little creatures in God's glorious universe. The man who is wise, happy and content, sees the eternal God in everything around him: the seasons, the fields, the hills and valleys, and all the creatures on the earth are clothed in glory; but nowhere, nor in any other creature, is the wonderful and all-wise adaptation and design manifested as in the little "busy bee." The manner and thoroughly practical government in the home, the power and adaptability of the queen with her body-guard, in that home for its good and success: the tiny eggs which she never tires of depositing by the thousands until old age shall claim her: the care and attention of those eggs by the nurses of the family; the food and growth of the young bee from the time it begins to show life until its birth into that home; its care after birth; the different kinds of departments, and food which produces from the same mother the workers (neither male nor female), the drones (the male bee), and the queen, which produces respectively the worker in 21 days, the drone in 24 days, and the queen, much larger than the worker, in 16 days; the wonderful mechanical construction of the cell for strength and economy; the ability of the workers to gather nectar from the blossoms and flowers of the fields and trees, which, when stored in the home becomes one of the best foods and medicines for man—I say all these traits of the bees, and many more that might be named, unfold a world of thought and investigation.

Honey has great healing and soothing properties, and is an excellent medicine for sore throats, lungs, cuts or sores of any kind. The poison of the honey-bee is an antidote for rheumatism. Dr. McDonald, of this State, informed me several years ago that he used the poison successfully for rheumatism and dropsy. Honey as food is very strengthening and heating to the system. It is said that during the Russian and Turkish war in crossing the mountains the soldiers were weak and cold from lack of food. The Russian general ordered that the soldiers be fed with honey every day—a ration which at once revived their spirits, and strengthened and warmed their bodies. In ancient times it was regarded as almost sacred, being the best food, medicine and drink, when prepared, to be found upon the earth. In Abyssinia, Russia, India, Palestine and other countries, refreshing drinks are made from it. In ancient Egypt it was valued as an embalming material, and in the East for the preservation of fruits and the making of cakes. In India a mixture of honey and milk is a respectful offering to a guest, or to a bridegroom upon his arrival at the door of the home of his bride's father.

Bees are also a benefit to every farmer and horticulturist wherever kept, as their value in fertilizing blossoms of fruit and clover can not be estimated. Our occupation brings us in contact with one of God's best gifts to man, and opens up a field for labor as flattering as any other where the same amount of capital is invested. Yes, more than this, it offers a source of making a living, and support to the sick, that no other occupation does. The labor and work is of such a fascinating character that it at once becomes a medicine and tonic to the weak and sick, and many have found health and success in following it when everything else had failed. As a combination with fruit-growing it can not be excelled. In fact, every one who lives in a locality where there is plenty of bee-pasture should keep bees if the locality is not already overstocked. There is nothing that will pay better, and bring such rich returns to the health of the family.

My friends, it has been nine years since I was first elected president of this society, and the time has come when I must leave you as such, and another must take my place. Whoever it may be it should be one who has plenty of time to devote to the interests of the society, and who is able to spend a little money. The society can only be kept up and in the front ranks by those whose work is a labor of love in its behalf. This and kindred societies can only be kept in the advance guard by the personal devotion of those whose hearts love the society and the calling it represents. The meetings which we have held during all these years have been pleasant and profitable to me. I have regarded you all as my friends; I have tried to do my duty, and have found you all ready to assist me; and I shall be pleased at all times in the future to hear of your happiness and prosperity. If there is ever a time when I can be of any service to any of you in any capacity it will make me happy to serve you, and I shall also be happy to hear from each one of you personally at all times. It is my wish that success and happiness may follow each one of you always.

J. P. WEST.

The address was well received, sympathy expressed for the president in his illness, and regret that he was unable to attend the meeting. The secretary was instructed to express the warm sentiment of the Association toward him.

The proposition to join the National Bee-Keepers' Association in a body was brought up and discussed. Owing to changes which would have to be made in the constitution if this were done, it was decided to postpone action until the next meeting.

Mr. Longfellow, a Minneapolis commission man, next gave a talk on shipping and selling honey. He said the best packages to use in this market for extracted honey are the 10-pound and the 60-pound tin cans; and for comb honey, 12 and 16 section cases.

(Continued next week.)

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

LOAD A WORKER-BEE CAN CARRY.

Your editorial note on page 286 assumes that Astor's bees carried more of honey than of nectar because they *could* carry more. That may be it. A vial completely full of honey is heavier than the same vial filled with nectar: but I think we may wisely suspend judgment a little. Certainly the theory ceases to work if we try to account for the rest of Astor's figures that way. If bee-loads are 50 mg. (say June 15) and 25 mg. (say July 15) it won't do to say that on the earlier date the nectar was twice as heavy. The figures referred to have the appearance of having been selected or doctored in some way; but they are probably true in a general way. A bee securing a load all in one place may be expected to take about what it can. If the load is secured at a hundred different places, with as many flights between, we

may expect the bee to realize that the weight is tiresome and go home quite a bit before the limit of what it can carry is reached. Still more so when a thousand or several thousand flights must be made. Apparently this consideration ceases to govern after awhile; and the bee comes home occasionally (say each two hours or so) with whatever it may happen to have. To teach that there is a steady and regular decline of the amount of honey in the flowers with the advance of the season, would manifestly be incorrect; but, with a great many ups and downs, the general trend is that way, probably.

HOLDING QUEENS AND CELLS BETWEEN THE LIPS.

Doubtless perfectly dry lips will do no harm either to a queen or to a cell. It should be kept in mind, however, that the human saliva is a poisonous fluid (greatly *variable* in the degree of its poison) and we don't want our queens soaked in poisonous fluid, as bunglers would do it, should you tell them to hold queens that way. Even for delicate plants and seeds the mouth is a good place to keep them out of. Try it on nails, which can give and take in the matter of dirtiness and poison. If a high and refined degree of dirtiness is desired, with a spice of danger thrown in, try nickels and pennies. Page 286.

AN APIARIAN ROBINSON CRUSOE.

Mr. H. T. Hanna, we shall have to compliment you as an apiarian Robinson Crusoe, if you have a good location and no other apiary for eight miles. Page 285.

THAT BEE-KEEPERS' CLUB FOR QUEEN-REARING.

To have 100 bee-keepers club together and employ an expert queen-rearer at fair wages to rear 50 for each, is a decidedly new departure. Certainly there are some very manifest advantages and savings about it. Sure market in the place of a glut of uncalled for queens. Reasonable in the place of unreasonable dates. Fair lot and turn and "divy" in the place of clamor—or would the order of precedence be a specially hard thing to adjust without ill-feeling? There are also some weak points. I think I would rather collect my wages from one man than from a hundred. And, while the enlisting of half a dozen in the new scheme might be very easy, the fife and drum might be pretty well worn out before man No. 100 "swore in." Page 291.

FIRED AT LONG-TONGUED QUEENS.

I'm right glad Mr. Doolittle fired himself off as he did on page 293. Little guns are excellent for many uses; but when an enemy develops that needs (badly needs) to be intimidated somewhat, then the heaviest gun in the service is just the piece to turn loose. Exactly how much good will come of the cultivating of long tongues *by measure* we don't know just yet. Quite a bit I hope (notwithstanding the "bang"), but it's plain to be seen that inaccuracy, and pretense, and conjectures that hardly amount to more than pretense, were going to get thick as the smoke of the pit. Long-tongued bees were going to mean just about as much as "pure white ead," or "pure baking-powder," or "pure gum drops," mean where no officer looks after frauds. Attention, ye buyers! When you get your long-tongued queens, get them with the same circumspection that you get the pure lead to paint your house. Testing the actual reach of bees at work is not so hard as to be beyond the reach of the ordinary apiarist; and 'spects it will have to come to that. Mr. D. pushes things too far in claiming that long tongues are of no profit except in red clover regions. Many long-tubed flowers have *something* to do with furnishing the total of nectar supply.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

THE TOBACCO HABIT.

Over 100 of our college folks—almost half of us—went to Los Angeles last Saturday to attend the Intercollegiate Oratorical Contest, and the second contest of three arranged with one of the colleges to decide who were champions in base-ball. I was proud, as our fellows won the trophies in the ball game, as they had won in the first, with a great score of 15 to 2. I was still more proud as we achieved victory in the oratorical contest. But I was most proud of the gentlemanly character of our students. One way this was shown, was in the entire absence of smoking among our fellows. The others smoked. We did not. I rejoice that we have no smoking at our college. I wish tobacco was eschewed in all our homes. Our friend, A. I. Root, in "Our Homes," has done splendid service in urging against this habit. I wish I could be like happy in these "Home Circle" columns. To the hundreds of students that I have taught physiology, I have always spoken, as best I might, against all use of tobacco.

Boys and girls—and I rightly include girls—may I not have your ears a little to talk tobacco? We all wish to be sweet and clean. The tobacco user is usually neither. We do not wish to be offensive—a nuisance—to the most sensitive lady with whom we may seek or find companionship. The tobacco sot, certainly, the user of tobacco generally, is just that. We do not desire, certainly, to acquire a habit that will tend to dethrone health and court disease. Every wise physician will condemn tobacco as guilty of both these serious counts. Can we afford, in these days of keen competition in business, to strike at our chances of success? Several railroad companies no longer employ the cigarette smoker, and many employers will tolerate no one as an employee who uses tobacco at all.

The money spent for tobacco—though to my mind the least weighty argument against its use—should be thought of. The sum is enormous. If saved, how quickly it would pay all debts. How well it would clothe our people. How generously it would "bread and butter" us all. I would I might say the blessed word that would stay this frightful expenditure.

The worst count that perhaps can be brought against this arch enemy of the well-being of our people, and especially of our youth, is the tendency of the habit to make its patrons thoughtless—regardless of the comfort of others, and thus to destroy the gentlemanly instinct among us. How often in public places our ladies must endure the poisonous fumes from cigar or pipe. Only a few days ago I was presiding at a large picnic gathering, where speaking was going on, when some ladies appealed to me to relieve them from just such an annoyance. I have had to do this unpleasant duty over and over again. Can people acquire the tobacco habit, and preserve their gentlemanly instinct, all unimpaired?

There is a very serious side to this question—that of heredity. If, as many of our best scientists insist, the taste, inclination, and diseased tissues consequent upon the use of "the weed," are all likely to be transmitted to the dear children, then how can any of us acquire—how can any of us persevere, in this, oh, so common habit? If, as seems proved, wives and children are seriously poisoned by simply breathing the emanations from fetid breath and befouled clothing, then, indeed, we have most eloquent appeal to do all we can to stay the evil. And so I say, girls as well as boys. God be praised that our girls are saved from this danger.

But the girls have a proud privilege. They can influence against the habit that will tend so greatly to impair their happiness and well-being. God help all our girls to say boldly. "Yes, the cigar is offensive to me." For surely it must be offensive, morally at least, to every right-minded girl.

THE BOYS.

I read a pathetic account yesterday of a boy, just at that awkward age of 13, who was the victim of neglect and ridicule of his sisters. Home, that should attract, almost drove him away. One of the sisters heard a lecture on "Treatment of brothers." The words smote her to the quick. She went home, surprised her brother by the request to tie his necktie, and soon more by a present of a beautiful one. Within a day or two the big, awkward boy found his room neatly fixed with some pictures and other dainty attractions, which only the deft hand of girls can fashion. Wasn't the sister paid when the great boy threw his arms about her, and blubbered out, "Oh, but it's good to have a sister care for you!"

We would all like to practice one kind of theft. We would all like to rob the slums, the saloons, the street corners, and all other questionable resorts, where the dear boys are led to the bad. Loving attention at home, the words of kindly sympathy, the neatly fixed room, loving interest in game or any plan that is dear to the boy, will almost always result in this blessed robbery. The sister almost more than mother can be the proud agent in this worthy work. From 12 to 15 is the rapidly growing, awkward, blundering, bashful age with the boy. This is the time of sunshine. Let all in the home circle unite in the effort to make the boy, that it may be a good crop.

QUEENS!

Improved Golden and Leather-colored Italians are what **H. G. QUIRIN** rears.

We have one of Root's best long-tongued **Red-Clover Breeders** from their $200 queen, and a Golden Breeder from Doolittle, who says if there is a **BREEDER** of golden bees in the U. S. worth $100, this one is worth that sum. The above breeders have been added to our already improved strain of queens for the coming season.

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A. I. Root's folks say that our queens are extra fine, while the editor of the American Bee Journal tells us that he has good reports from our queens from time to time. We have files upon files of unsolicited testimonials.

After considering the above evidence, need you wonder why our orders have increased each year? Give us a trial order and be pleased. We have years of experience in mailing and rearing queens. Safe delivery will be guaranteed, and instructions for introducing sent with each lot of queens.

QUEENS NOW READY TO MAIL.
Prices before July 1st:

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Warranted stock	$ .75	$ 4.25	$ 8.00
Selected warranted	1.00	5.00	9.50
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Extra selected tested, the best that money can buy, 4.00			

Folding Cartons, with your address printed on in two colors, $4.00 per 1,000; 500 for $2.75.
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Our stock is so carefully bred and selected, as to secure car-loads of honey. Locality free from foul brood and other bee-diseases. Prices: 1 untested Queen, $1.00, 6 for $5.00; 1 tested Queen, $1.50, 6 for $7.50; best imported Queens, $6.00; fair imported, $5.00.

ADA L. PICKARD,
18E7t **RICHLAND CENTER, WIS.**
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THOSE
Long-Tongue Adels

BEAVER, PA., April 4, 1901.
From one 3-frame nucleus you sent me I took 213¾ pounds of extracted honey.
WM. S. BARCLAY.

Each Queen, $1.00.
Essay, "How Not to Rear Queens," sent free.
24A4t **HENRY ALLEY, Wenham, Mass.**

3-frame Nuclei For Sale

Can supply 100 or 150 at $2.00 each, with one empty extra comb; 2-frame Nuclei, $1.50. All f.o.b. R. R.

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Write John Y. Calahan, General Agent, 111 Adams St., Chicago, for full particulars and folders showing time of trains, etc. 11—24A3t

GENERAL ITEMS

Bees Wintered Fairly Well.

I could not get along without the Bee Journal. My bees wintered fairly well last winter, and they are in good condition. I now have 14 colonies. I commenced three years ago, but lost the most of them the first two winters. I tried to keep them in an out-house, but it was too cold. Last winter I had them in the cellar under the house, and they did well, and came out very strong this spring.

This country is very good for bees. There are lots of all kinds of flowers, and white clover that blossoms all summer. My bees carried in pollen the last of March, but it is quite cold in the winter, and the bees must have a good cellar, when they will do well here. I have had two swarms of bees this spring.

This was written by my son, Winfred Schmidt. I gave him a swarm of bees to start on, and he is going to be a bee-keeper when he gets bigger. F. C. SCHMIDT.
Price Co., Wis., May 27.

Bees in a Hemlock Tree.

I was in the woods all winter, and the first tree that I cut down was a very large hemlock, out of which I got a colony of bees. They were in a hollow 62 feet from the ground. I cut out the wood around the bees, making a block about 3 feet long, which I rolled onto the sleigh, and took home. W. E. YOUNG.
Ontario, Canada, May 20.

Honey as Food and Medicine.

I agree with Mr. Doolittle about honey being good for both food and medicine. We eat it the year around, and have no sickness to speak of. It is so good for children, curing colds, sore throat, and almost everything that a child is subject to. We eat an average of a pound and a half a day.

Our honey crop was very poor last year.
Jefferson Co., Colo. MRS. F. BUSSERT.

A Report from Tennessee.

I caught a swarm of bees a few years ago, subscribed for the "Old Reliable," became interested, and now have 10 strong colonies and one new swarm. I have bought about a dozen queens, but don't have very good luck with them, so we still have blacks and hybrids. I do not expect, nor desire, many swarms this spring, but have nine new hives awaiting occupancy. I use the 8-frame Simplicity, and plain sections and fences. I don't think there is any money in bees in this section, but there is much pleasurable pastime.

White clover is abundant, and has been in bloom for two weeks. Bees are busy, but have not done much work in the sections yet.
R. H. STRICKLAND.
Perry Co., Tenn., May 18.

From Wisconsin to Washington.

Bees did not winter very well in this locality as a general thing; some bee-keepers lost quite heavily while others did not lose any. The spring has been very favorable for them to build up, and the prospect is for a good honey-year. The weather has been very warm, and somewhat dry, but lately we have had plenty of rain.

On the morning of May 16 I left home for the Pacific coast, going by way of St. Paul, passing through a portion of northern Wisconsin, across Minnesota, North Dakota, Montana, a portion of Idaho, and into central Washington—a jaunt of nearly 4000 miles—and I did not see a single bee-hive, although I was on the lookout for bees. While in Lincoln County, central Washington, I heard of a man 15 miles away that had some bees. I

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Long-Tongued 3-Banded Italians
bred from stock whose tongues measured 25-100 inch. These are the red clover hustlers of America.

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Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3¼ miles apart, and mated to select drones, $1.50 each; untested warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and but few within 5 miles. 28 years' experience. Discount on large orders. Contracts with dealers a specialty. **JOHN M. DAVIS,**
6A26t **Spring Hill, Tenn.**

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did intend to make him a visit, but did not have the time. He was on the Columbia River, and in the midst of a fruit-growing region.

I did not see any alfalfa growing, though in some sections of Washington it is grown quite extensively. Broom-grass is beginning to be sown in central Washington, but clovers do not seem to grow. There is no irrigating done in Lincoln and Douglas Counties. These counties are in the famous wheat-growing region known as the Big Bend country.

No person, I care not how good he may be with a pen, can give an adequate idea of that wonderful country. It must be seen in order to be appreciated.

I intend to make Washington my future home, and have purchased 320 acres of land all under the plow, part of it in wheat, a house and barn with outbuildings, and an orchard, for the consideration of $14 per acre. I do not intend to part with my old and tried friend, the American Bee Journal, though some ties must be severed and friendly associations broken. L. ALLEN.

Clark Co., Wis., May 3.

Of the Waterleaf Family.

I enclose a plant that is getting into the fields here. What is it? JOHN M. SEILER.

Hennepin Co., Minn.

[The plant in question is Ellisia Nyctelea, and belongs to the Waterleaf family. It is quite common in more southern States, and is probably enlarging its borders by taking in choice sections of Minnesota. I do not know whether or not it furnishes food for bees. Watch it.—C. L. WALTON.]

Heavy Locust Bloom in Kentucky.

The prospects for a good honey crop here are not as good as I wish they were, but perhaps everything will come around all right yet. We have had an unusually cool, gloomy spring, and everything is from 15 to 25 days late. White clover is beginning to bloom, and we are having the heaviest locust bloom I ever saw, but the weather is so bad that the bees work on it but little. W. S. FEEBACK.

Nicholas Co., Ky., May 29.

A Beginner's Report.

I have 9 colonies of bees, and one of them swarmed April 27. They wintered on the summer stands without loss. They are storing in the supers now.

Prospects are good in this locality. The hillsides are white with locust bloom, and fields are covered with white clover.

I am a beginner 16 years old, and love my bees and bee-papers. R. W. SMITH.

Botetonrt Co., Va., May 27.

Bees in Fine Condition.

Bees are building up nicely at present. The early spring was too cool for them to do much on maple and willow, but they have done unusually well on fruit-bloom, and are getting in fine condition for the white clover harvest, which, from present appearances, will be good. L. JONES.

Floyd Co., Iowa, May 29.

Queen Visiting a Deserted Hive.

While going through my hives on May 16 I found one deserted, and moved it ont of the bee-yard, back of my implement house, about 100 feet from where it had been. I was taking out the combs, and hunting and destroying the moth-worms that had a start in them, and while at work a black queen lit on one of the combs. I tried to catch her, but she circled around and lit on the side of the house, when I caught and caged her. I then examined the rest of my colonies, but could find none without a queen. Where do you think she came from? and is it not very rare for one to fly around like that?

The past winter was very hard on my bees. They were flying almost every day, and used

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We will mail one of the above queens alone for 75 cents; or 3 for $2.10.

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in 60-pound tin cans, f.o.b. Chicago—two cans in a box—at these prices: 9 cents a pound for one box of two cans; two boxes (4 cans) or more at one time, 8½ cents a pound.

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Red Clover Queens

LONG-TONGUED BEES ARE DEMANDED NOW.

ONE Untested Italian Queen FREE as a Premium for sending us TWO new subscribers to the American Bee Journal for one year (with $2); or, one Tested Queen free as a premium for sending us FOUR new subscribers with $4.00).

We have arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us the coming season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

All queens guaranteed to arrive in good condition, and all will be clipped, unless otherwise ordered.

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up all their stores, and I have lost 13 colonies through spring dwindling, and expect to lose more. I have been feeding, but the bees are not there to build up.

I think there is no better country in the United States for all purposes than the Cherokee Nation country. R. N. Crafton.

Cherokee Nation, Ind. Ter., May 18.

The Weather Hard on Bees.

My bees were in splendid condition in March, breeding up strong, and they worked three days on maple blossoms, the trees having the finest amount of bloom on them that I ever remember seeing, the blossoms being as large as peach-blossoms. But suddenly it turned cold, and thousands of the poor little bees were caught napping, they could not get to their hives, and perished. The frost killed all of the bloom that was far enough advanced to be affected, and all through the greater part of April we had cold rains and frosty weather, then there was a great profusion of fruit-bloom; but the bees did not seem to be strong enough to take advantage of it, and in the midst of it came a heavy, cold rain and hail-storm which destroyed the bloom.

The bees have had a hard time of it, though most of them are in good condition now. Some are weak, but most of them are clustered at the entrance waiting for white clover, which is looking first-rate, and there are a few blossoms here and there.

We have had no swarms so far this year.

D. C. McLeod.

Christian Co., Ill., May 27.

Bees Starved in Iowa.

A good many of the bees in this part of the country starved last winter. I have 30 colonies in good condition, and increasing fast

I clip all queens, cut out queen-cells, give plenty of room—two or three supers at once—and have very little swarming. I sell all my honey in the home market, and stamp every section. George C. Durr.

Jasper Co., Iowa, May 30.

Bees and Olives.

These are suggested by W. A. H. Gilstrap in the Bee-Keepers' Review, as a desirable combination. He says:

The bulk of the work with olives is done between Oct. 1 and March 1, then for three months the work is moderate with both bees and olives. Some time in June or July the honey harvest commences and lasts until Oct. 1, when the fruit is about ripe. By that plan one man can put in his time the year through at one place, having no idle spell. Perhaps that would be more profitable than any other method in some cases, while in other surroundings, with other men, it would not.

Smothering a Colony of Bees.

This is a much easier thing than the novice would suppose. Nearly every one must suffer a personal loss in order to learn the lesson. Possibly some may be induced to be careful without any personal experience by reading the following case reported by Dr. C. S. Phillips, in the Southland Queen:

I want to tell you how we lost a large, fine swarm. There was a swarm that came out and my wife hived them, and they came out and went back. They did this two or three times, and the last time was on Saturday, and when I came home from the office she told me of it. I said, "All right; I'll fix 'em. Sunday they will not come out."

So Sunday morning I got some wire-cloth and fitted it over the entrance to keep them.

in, and said, "Now I've got you," and went on to Sunday-school and church content. When I returned I went to see our bees, and noticed that the ground in front of the hive was wet, and the bees looked lifeless. I opened the hive, and they were all dead. They had smothered to death. What a fine swarm lost, for they had in 13 hours built the eight frames of foundation half full.

Giving Combs of Honey to Swarms.

Editor Hutchinson says in the Bee-Keepers' Review:

Combs of solid honey may be placed in the brood-nest when hiving swarms, and the honey brought in will of necessity be carried into the sections. Friedemann Greiner mentioned this at one of the New York institutes, saying that he had frequently practiced the plan, and in addition to being compelled to put the new honey above, the bees are also obliged to remove much of the honey from the combs put in the brood-nest, and carry it up into the sections, in order to make room for a brood-nest. By this management not only is the newly-brought-in honey put into the sections, but any combs of first-class honey may be "worked over," so to speak, into section honey.

Queen Accepting Bees.

Editor Pender says in the Australasian Bee-Keeper:

During a honey-flow bees are so much engaged as hardly to notice a change of queen, provided the queen does not disturb the bees herself. I have had bees too busy gathering even to start cells when made queenless. During a scarcity of honey queen-introduction is not at all certain, the bees are idle and resent interference. The editor of Gleanings does "not understand how fasting for 30 minutes on the part of the queen should induce a friendly behavior on the part of the bees." In queen-introduction I find success is due quite as much, if not more, to the disposition of the queen. I never introduce a queen if she is excited, and runs about madly in the cage. I simply withdraw the candy and starve her until she is prepared to beg for food, and thus PREPARE HER *to accept of the bees.* We usually prepare bees to accept of a queen. Cause a queen to run excitedly over the combs and the bees will ball her at once, even their own queen, how much more a stranger.

Bees of a Swarm Living Longer.

Knowing what a short lease of life worker-bees have in the busy season, it seems a little strange that the bees of a swarm hold out as well as they do. In the British Bee Journal H. B. Buckston reports some experiments concerning the matter, and concludes by saying:

The reason, then, why bees in a swarm live longer than usual seems to be that the younger bees of the swarm have to serve as indoor workers for a longer time than they would do in a hive containing constantly-hatching brood, and they thus are not exposed to the accidents and hard labor experienced by field-workers.

Shall Hives Be Painted?

In defense of painted hives, A. C. Miller says in the Bee-Keepers' Review:

An unpainted board will absorb moisture freely; coat it with paint or varnish and it will not. When it is thus coated, the enclosed cellular structure is a fair non-conductor; hence, a hive coated with varnish on the inside and paint on the outside is, in a limited way, the same as a chaff hive, *i. e.*, a porous poor conductor between two better conductors. When the pores in the wood of a single-walled hive are filled with water, which is a good conductor, the hive becomes a little better than if it were made of metal or stone.

After 28 Years.—We are not much in sympathy with advertisers who make use of extravagant claims as being "biggest," the "best on earth," "none so good," etc. When, however, these or similar claims are borne out by the actual facts we believe that the advertiser has not only a perfect right, but that he should make the facts public. This is brought to mind by the advertisement of the Elkhart Carriage and Harness Manufacturing Co., of Elkhart, Ind., who regularly use this paper in season. These people for the past several years have been laying claim to being "the largest manufacturers of vehicles and harness in the world selling to the consumer exclusively." To one who will take the pains to investigate, or what is better still, if it is possible, go to Elkhart and look over this institution and examine their methods of doing business, this statement will appear as modest and entirely within the bounds of truth. Of course this result is not one of sudden attainment; it has taken more than 28 years of hard and persistent effort to bring this institution up to its present high plane. Having decided long ago that the public would much prefer to deal direct with the manufacturer, the man who made the goods, if the people but could be convinced that they were getting the best goods at the lowest procurable price, the Elkhart people inaugurated their present system of doing business. That their methods have been approved and appreciated is evidenced by the growth, magnitude and prestige of their present business. In their two large factories at Elkhart they manufacture 178 styles of vehicles and 65 styles of harness. In vehicles they are prepared to supply the public with every conceivable article from the open buggy through—phaetons, stanhopes, a long line of top-buggies, surreys, two and three seated carriages, spring wagons, etc.—to wagonettes, busses and all classes of delivery wagons. In harness they have anything from single-strap buggy-harness all down the line to best double-team harness for farm work. Remember that they make every article they sell in their own factories, and that they employ no agents or middle men, but sell exclusively to the consumer at wholesale prices. Every article is guaranteed in a way that removes all element of chance. Everything is made of good material in the most substantial way, in the best and latest style, and sold to the consumer at the most reasonable of prices. Write them for their large illustrated catalog which they will take pleasure in sending to our readers free, not forgetting to mention seeing their advertisement in the American Bee Journal.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, June 7.—Not any new comb honey has come to this market up to date hereof, but promises are being made for some before the month closes. A little good white comb still on sale, which easily brings 16c; not much of any other kind here. Extracted very dull, practically no sales made. Beeswax firm at 30c.
R. A. BURNETT & Co.

DETROIT, May 21.—Fancy white comb 14@15c; No. 1, 13@14c; dark and amber, 10@12c. Extracted, white, 6½@7c; amber and dark, 5@6c. Beeswax, 27@28c.
Very little desirable honey in sight. The new crop will find the market well cleaned up. The demand is always light at this season of the year.
M. H. HUNT & SON.

CINCINNATI, May 17.—No demand for comb honey, also stock of it well exhausted. Extracted very dull; sales are more or less forced; lower prices from ½ to 1 cent per pound.
C. H. W. WEBER.

BOSTON, May 21.—Our market continues dull on honey with very light stocks on hand. Our normal prices are as follows: Fancy 1-pound cartons, 17c; A No. 1, 16c; No. 1, 15c; No. 2, 12@14c. Extracted from 6½@7½c.
BLAKE, SCOTT & LEE.

OMAHA, May 1.—Comb honey, extra white, 24-frame cases, per case, $3.40; No. 1, $3.25; amber, $3.00.
PEYCKE BROS.

NEW YORK, June 1.—Extracted honey is exceedingly dull and very little moving. We quote for the present: White, 6½@7c; light amber, 5½@6c; amber, 5@5¼c. Some demand for comb honey at unchanged prices. New crop is now beginning to arrive from the South, and sells at from 12@15c, according to quality and style. Beeswax, 29c.
HILDRETH & SEGELKEN.

ALBANY, N. Y., June 1.—Honey market quiet. No stock, no receipts, and no demand now. It is between seasons. We look for good prices the coming season, for in this vicinity the foul brood has nearly exterminated the bee-keepers.
H. R. WRIGHT.

BUFFALO, May 29.—Very light trade in all grades of honey. Strictly fancy sells fairly, at 14@15c; dark dull at any price, and 8@9c about the range. Beeswax, fancy, 27@28c; dark, 23@25c.
BATTERSON & Co.

KANSAS CITY, May 4.—Practically no shipments arriving, and very little selling. We are getting $3.50 to $3.65 per case of 24 sections No. 1 white; amber, $3.00 to $3.25. Beeswax scarce at 25c.
W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

SAN FRANCISCO, May 22.—White comb 11½@12½ cents; amber, 9@10c; dark, 6@8 cents. Extracted, white, 5@6c; light amber, 4@4½c; amber, 3½@4c. Beeswax, 26@28c.
Market presents a weak tone, with dealers, large and small, holding off as much as possible, in anticipation of liberal offerings from producing sections at an early day. There is not much new honey now here, either comb or extracted. For some very choice white comb 13 cents is asked. New amber extracted has been placed at 4 cents, which is the utmost figure obtainable in a wholesale way in the local market for this grade.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., JUNE 20, 1901.

FORTY-FIRST YEAR
No. 25.

WEEKLY

MR. J. M. RANKIN,
Inspector of Apiaries for the State of Michigan.

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

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GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

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The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

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OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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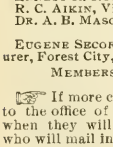
A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

MR. F. GREINER, of Ontario, Co., N. Y., writing us June 9, had this to say:

"The season so far has been exceptionally unfavorable. However, we take it stoically, as we look for a yield only from buckwheat later."

DR. JAS. MCLEAN, whose interesting article on "Medicinal and Nourishing Properties of Honey" appeared on page 324, writes us that a slight error occurred therein, referring to the indigestion formulæ regarding the quantity of honey, which should be one teaspoonful instead of one tablespoonful. He thinks it might be well to rearrange the whole sentence as follows:

"One teaspoonful of pure honey dissolved in a glass of cold or tepid water, into which mix one teaspoonful of tincture of myrrh, to drink shortly after eating."

MR. THADDEUS SMITH, whose picture is shown on page 389 this week, is a retired bee-keeper, though he has from 10 to a dozen colonies. He begins, in this week's number, a series of reminiscent articles which we have no doubt will be read with much interest by all. He is between 70 and 80 years old, though no one would believe it if compelled to judge from the picture alone. It must be that the Pelee Island climate, in connection with a luscious fruit diet, contributes to longevity; and very likely honey also plays an important part in helping to keep him so young in appearance.

MR. J. M. RANKIN, as previously announced, is the recently appointed inspector of apiaries for the State of Michigan. We are pleased to present so good a likeness of him as on our first page this week. He is 26 years of age. He began bee-keeping at the age of 12, with two colonies, one in a Simplicity hive and one in a box-hive. During his first experience he made the acquaintance of a German bee-keeper by the name of Andrew Hunt, to whom he is indebted for careful and interesting teaching, and for a great deal of his early training in bee-culture.

When 18 years of age Mr. Rankin met foul brood for the first time, and it resulted in the loss of half of his 40 colonies, but the disease was finally stamped out.

He took charge of the experiment station apiary at the Agricultural College of Michigan in April, 1897, and during the past four years has been a student there. He has done some good work with foul brood, and has gone several times to different parts of the State to assist bee-keepers in treating their apiaries to rid them of foul brood, so the work is not entirely new to him.

We had the pleasure of meeting Mr. Rankin at the Chicago convention of the National Bee-Keepers' Association last August. We feel that Michigan has made no mistake in appointing him to so important a position in the interest of bee-keeping. He will not disappoint those who labored so hard to secure the foul brood law, and who also recommended his appointment. On account of his investigating turn of mind, and decided interest in the subject, we bespeak for Mr. Rankin an honorable career in the bee-keeping line.

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., JUNE 20, 1901. No. 25.

Editorial.

The Season seems to be unusually unfavorable. Cold and dry weather has prevailed over a large area, while some portions complain that it has been too wet. There is some complaint that white clover is plentiful, but that the bees get little or nothing from it. Unless very close watch is kept, there is danger that some colonies will be starving in June.

Starting Bees in Sections.—Mrs. Barber and others are warm in praise of the plan of giving bees an extracting-super to start them to work, and a day or two later replacing the extracting-super with a super of sections. Referring to this, M. A. Gill says in Gleanings in Bee-Culture:

In advising the use of an extracting-super to start to work in sections, are you not aware that thousands of us bee-keepers do not have an extracting-super on the place? I would advise any bee-keeper working for comb honey to exchange supers with colonies that are tardy about working in sections with one that has made a *good start*, and be sure to carry along some of the comb-builders (young bees) which are the last to leave the super. The colony given the super with full sheets of foundation will at once resume work, from the force of the same habit you say they have acquired by the use of your extracting-super.

A Satisfactory Hive-Cover—at least one that is satisfactory in all climates—is hardly yet on the market. Editor Root says that the perfect hive-cover is yet to be made for Colorado, Cuba, and other countries that are different from the northern part of the United States. He hardly need to have made any distinction, for objections against a cover in Colorado would still lie against it in New York, only in less degree. Possibly one trouble in the case has been that there has been too strong a feeling that the expense of a cover must not much exceed the cost of a plain board. Something must not be expected for nothing, and a good cover being so essential a part of a hive, the wise bee-keeper will hardly object to some extra expense. Perhaps it would be a good idea to have a pretty thorough discussion as to the points of a good hive-cover. Some of them may be as follows:

Lightness: a cover must be lifted a good many times, and it makes a big difference whether it weighs five pounds or twenty-five.

A freedom from warping and twisting: a plain board cover may be firmly cleated at the ends that it can not possibly warp, but the cleats can not in the slightest degree prevent it from twisting so it will not lie flat on the hive.

A dead-air space: this will make it cooler for summer and warmer for winter. To be sure, a shade-board can be put over in summer, and something of the same kind may be effective for winter, but it is more convenient and satisfactory if cover and shade-board can be all in one.

A hive-cover with these requisites would make a perfectly close fit, and, if made perfectly rain-proof, ought to give pretty good satisfaction. In spite of the expense, some have covers covered with tin, so as to make a sure thing against leakage. Lately Neponset roofing-paper is mentioned as a close competitor of tin. Gleanings in Bee-Culture reports it still doing good service after 12 years' use. Of course, it must be painted; but so must tin.

Improvement of Stock is in the air nowadays. Unfortunately it is "in the air" in too literal a sense. There is a general reaching out after it, and a feeling that somewhere in the air about us there is something like improvement if we only knew enough to get hold of it. We are just now getting along so far in the matter as to begin to realize that we know nothing about it. The editor of the Rocky Mountain Bee Journal says:

"Who among us will deny that darkness, black as Egyptian night, envelops the whole bee-keeping world on this subject? This includes queen-breeders, bee-journal editors, and all others."

Well, it is a hopeful sign when one begins to feel his ignorance, and the reaching out after light gives promise of good things to come. If control of mating becomes an established fact, why should there not be just as intelligent work done in breeding bees as in breeding any other class of stock? Even without control of mating, if enough interest can be aroused to get all the bee-keepers to breed only from the best, there will be a great gain.

Sections Filled with Foundation have an argument in their favor sometimes not thought of. If you are wise, you will probably have in the brood-chamber much less drone-comb than the bees desire. It is the natural thing for them to fill out largely with drone-comb for storing, and the two kinds of comb do not look so well in a section. You probably have thought of that, but that is not all. The bees desire drone-brood, and if you keep careful watch you will find that sometimes as much as half or quarter of the section has not a drop of honey in it when sealing is well along in the super, because the bees are holding these cells open for the queen to lay in. If the section is filled with worker foundation, then there is no chance for drone-comb there. Those who use full sheets of foundation in sections do not find it necessary to use excluders to keep the queen down.

Size of Entrance.—Editor Doolittle says in the Progressive Bee-Keeper that he regulates the entrance to suit the size of the colony. After the first flight in the spring he allows to the strongest colonies an entrance of 2x⅜ inches, and from there down to ½x⅜ for the weakest, leaving them thus during early spring. When the bees begin to work on early pusturage, the entrances are enlarged as needed to allow free passage.

Box-Hives and Skeps in other countries seem to be more common than in this. A writer in the British Bee Journal says: "I can get as many driven bees as I like for the trouble of 'driving.'" The writer says he makes his hives out of used boxes, and he has taken the first prize for the best hive made by an amateur. Most bee-keepers on this side would hardly feel they could afford to make their own hives from common boxes.

Yellow Sweet Clover. — Successive crops of this clover from one sowing are reported in Gleanings in Bee-Culture by M. M. Baldridge. December 2, 1897, seeds were put in a shallow trench and covered with one or two inches of soil. From this sowing came three distinct crops, the last in 1899, which must all have come from the same sowing. He says it sometimes winter-kills, and, like the white variety, it is a biennial.

Getting Light Extracted Honey.—Mrs. Harrison tells in Gleanings in Bee-Culture about some extracted that she put on exhibition in competition with a number of other samples, and upon which she obtained a premium. Hers was distinctly whiter than the others, which did not at all differ from each other. Her competitors thought there must have been some trick about it, and she told them the trick. She extracted from none but pure-white combs. Holding the comb up to the light, if she saw a few cells of dark honey, those few cells were not uncapped. All utensils were clean and free from other honey. That was her "trick" for getting the whitest honey. This trick is a familiar one across the water, but bee-keepers on this side are hardly equal to their foreign cousins in getting up extracted honey for exhibition.

Convention Proceedings.

(Continued from page 378.)

Report of the Minnesota Bee-Keepers' Convention.

BY DR. L. D. LEONARD.

SECOND DAY—AFTERNOON SESSION.

Mr. Corbett, of the Dairy and Food Commission, talked of the work done by that Commission in the State. Of 150 samples of honey examined in two years, 25 percent has been found to be adulterated. Four dealers have been prosecuted for selling adulterated honey, and fined to the amount of $65. The following letter in regard to the matter, was read:

HON. J. P. WEST—

My Dear Sir:—Pursuant to your request to Major Bowler, I send you the following names of those who have been convicted and fined for selling adulterated honey this year:

Schmauss & Zeigler,	Duluth,	Feb. 23, 1900	$15
Ole A. Berg,	"	March 12, "	15
Mallough & Son,	"	" 15, "	15

The second named was fined for selling imitation honey.

Yours very truly,

MAY A. GRINDALL,
Stenographer Dairy and Food Commission.

Miss Moeser then gave a talk on cooking and canning with honey.

The advisability of having a Minnesota honey exhibit at the Pan-American Exposition, at Buffalo, was next discussed, and Dr. E. K. Jaques was appointed to take charge of the matter for the Association.

The following paper by G. H. Pond, was then read:

DISPOSING OF THE HONEY CROP TO THE BEST ADVANTAGE.

In considering this subject we must first decide whether we want to get the most for our honey regardless of the time required; or, is our time worth so much that it is best to sell our honey the easiest and quickest way? If we come to the latter decision the bee-keepers of Minnesota have an excellent outlet for their honey through the commission merchants of Minneapolis and St. Paul; and I think we can obtain better prices for our honey through them, than do those who ship to the large Eastern cities.

But perhaps most of us will decide that our time is not worth so much that we feel warranted in following this plan, and if by spending more time in disposing of our crop we can get a better price, we would better do so. Now I do not propose to advance a theory, but to give a few facts from experience, and as I have had no experience in producing or selling comb honey, I shall dwell only on disposing of extracted honey.

Honey is an article that people in general do not buy unless it is brought to their notice, so, in order to sell, it is necessary for us to put it up in a very attractive way, and then bring it to the notice of the people as much as possible. In peddling honey among farmers I have found that the oftener I go, the more I can sell; and this rule holds good wherever I have sold honey. "Keep going" is a good motto for any one who would sell honey.

A satisfied customer nearly always tells a friend or two, and shows them the honey, and in this way the business is extended, so that the more one sells the more he can sell.

I have learned by experience not to try to induce people to buy more honey than they wish at one time, because sometimes when they buy too much it candies, or gets in an untidy condition otherwise, and thus they get set against it. It is strange how many people there are (who ought to know better), who think that when honey candies it is spoiled. For example, I have supplied a certain hotel with honey for two or three years and they take over 100 pounds at a time, getting it three or four times a year, and I supposed they knew how to care for candied honey. But this fall their kitchen-man told me that the last honey I brought them was not good, and on examining it I found that all that ailed it was that it was candied. A new kitchen-man had been employed and he did not understand about it.

In selling honey put up in glass packages to retail grocers, I find that if the honey candies on their hands their sales of it about come to a standstill. And although I tell them that heating will restore it to a liquid form, and they say that they will try it, I do not remember that a single one of them ever did. So I have found that the best way is for me to exchange it for honey freshly put up, and take the candied home and reliquefy it myself.

To sum it up, then, the most important points in disposing of our honey crop to the best advantage are:

1st. Produce a first-class quality of honey.
2d. Put it up in as attractive form as possible.
3d. Bring it to the notice of customers constantly.
4th. Keep your customers satisfied. G. H. POND.

Next, a paper was read by Dr. Mary McCoy, on

BEE-KEEPING NEAR DULUTH.

Years ago I became interested in the bloom in and about Duluth, as a possible profitable field for the support of the honey-bee. The spring season of Duluth is always about three weeks later than that of the southern part of the State, our earliest bloom being the dandelion, which is an abundant producer of pollen and some very bitter honey that is claimed to be very stimulative. We have some fruit-bloom—apples, cherries and plums—but there are not enough trees, all told, to make a fair-sized orchard. I do not think that basswood is indigenous to the country about Duluth, and there are but very few trees planted in and about the city. Until the past summer buttercups have been very plentiful, and have always ushered in the white clover which formerly literally carpeted the whole surrounding country, as well as the vacant lots, squares and parks of this city. Wherever a fire sweeps the country Nature attempts to cover the charred and blackened foliage with a profusion of the fragrant white clover bloom, and as Duluth has only recently been reclaimed from a wilderness, and fire has been one of the reclaiming agents, it has had plenty of barren spaces to beautify.

There are a few other wild flowers, such as the wild strawberry, the wild cherry, and the wild rose, which all help very materially, and I could not help noticing how heavily the wild cherry-tree bore which grew near where the bees were placed.

In the early fall the fireweed puts in an appearance and the honey stored from it is as fine as that from the white clover.

The weather is cool enough here so that the bees do not care to hang outside of the hive, and the first summer we kept them they did not loaf more than one or two days. The past summer was a little warmer, and they loafed a little in the middle of the day, but their loafing is not to be compared with what I have seen of it in the Michigan apiaries.

We have had no experience with any bee-diseases in Duluth, and have had no spring dwindling. I do not think the bee-moth inhabits Duluth, or, if it does, perhaps the bees (like the people of our city) are too wide awake to let it get a foothold. Suffice it is to say that since the first summer that we purchased the bees we have discovered none of the moth-larvæ. We know nothing about foul brood; it is a disease that has not yet gotten into our part of the State. I don't think there ever has been any in this section, and I hope there never will be.

There are about 10 people in and about Duluth that keep bees. One family has kept them over 20 years. I asked the head of this family—she is a widow—if it paid, and she replied, "Well, I've paid off the mortgage on the farm, sent the children through high school, and one through business college, and built a kitchen on the house, and all I've had to do it with has been my 69 colonies of bees." So she has found it profitable.

We have been keeping bees for about four years, starting with two colonies. White clover began to blossom about May 15, the spring being unusually warm and early, and as we had plenty of rain throughout the summer, and the frost was late in appearing, our honey season lasted till September. That year we increased to six colonies, and secured 178 pounds of beautiful white clover comb honey, which was selling in Duluth at that time at 15 cents per pound. The next summer the yield was fair, but as the bees were five miles from our home they did not get the attention they should have had, although we increased to 12 colonies, and secured about 300 pounds of honey. We had scarcely any snow last winter [1899–1900], and the white clover was badly winter-killed, so much so that we thought for a while that we would have none at all; but if clover was scarce, the price of honey was high, so we did not do so badly, after all. We sold one colony to a friend, and with the honey which we sold and ate, we figured that our debit and credit sides have come out about even. We discouraged swarming all we could the past sum-

mer, doubling up any colonies that were weak, and have 24 colonies in winter quarters [Dec. 1, 1900].

We have kept our bees in the heart of the city for the past two years, but we will hardly dare to do so any longer, as they are getting too numerous, and, besides, I am afraid the grocers and candy manufacturers would not stand their onslaughts another season as well as they did the past one. A grocer informed me that he never knew so many bees to be shipped with fruit as was done this past year. I kept discreetly silent, as he laughed and told me of one of his customer's antics when she picked up a peach and squeezed a bee which had alighted upon it. By-and-by they found that we kept bees, within two blocks of the main street of the city, and then it was not so funny.

Of the 10 families in and around Duluth who keep bees, I think that all, with possibly two or three exceptions, have made it pay. The field is a good one so far as clover is concerned, but it is not so good in some other respects. The absence of fruit-bloom, the lateness of the spring seasons, the early frost and abundant rains, make prolonged feeding necessary, and this reduces the profits. But then the quality of the honey must be considered—none finer is produced. It is as white as the driven snow, and I believe Duluth stands at the head of the world for the whiteness and purity of its honey. The fireweed and the white clover, which are honey-plants par excellence, grow profusely. I feel certain that if I had the time to devote to the bees which I should like to have, I could clear at least 70 pounds per colony in a season. While the yield here may not be so great as in some other places, the superior quality of the honey and the greater price which it commands, make the industry enticing.

(Dr.) Mary McCoy.

QUESTION-BOX.

Ques.—What plant can be sown with good success for bee-pasturage?

The opinion of those present seemed to be in favor of sweet and alsike clovers.

Ques.—What is the cause of foam rising on extracted honey? Ans.—Unripe honey.

Ques.—For bees wintering in the cellar, are quilts under hive-covers an advantage? Ans.—Yes, as the quilt absorbs moisture.

Ques.—What is the best method of protecting extracting-combs from the bee-moth? Ans.—By fumigating with bisulphide of carbon, and freezing.

(Concluded next week.)

Contributed Articles.

No. 1.—Some Reminiscences of an Old Bee-Keeper.

BY THADDEUS SMITH.

I PROPOSE to give some recollections of the time, incidents, and persons, connected with bee-keeping over a quarter of a century ago, and some incidents of my own personal experience of 30 and 40 years ago, with notices of prominent cotemporary bee-keepers and the great changes and improvements made in the science of bee-keeping within my memory—the introduction of the movable-comb hive, and the Italian bee. This first article will be given to the writer's early experience and the condition of bee-keeping at that time, but in future numbers he hopes to be not quite so prominent a figure.

I was brought up on a farm in Woodford Co., Kentucky, ten miles from the city of Lexington, and as far back as my earliest recollection my father kept a number of hives of bees, and I became interested in them when quite young. The first hive of bees that I owned was about 60 years ago. In coming home from school one afternoon I found a swarm of bees clustered on a low elder-bush not far from our house. It was duly hived, and the colony always went in my name.

My father having but one hand I had to assist him with the bees when quite young. The management of bees in those days consisted mainly in caring for them in the common box-hive with a cap on it for the surplus honey, and removing this cap when it was full of honey; and no finer or better honey than that was, can now be obtained by the most elaborate modern surplus arrangement, though we now get it in much better shape for market.

The wintering problem that now enters so largely into bee-management, did not seem to give us any concern in that climate. The hives all remained on their summer stands, without protection, all winter, and I don't remember any loss sustained, except some late swarm that was neglected to be "taken up" in the fall had starved to death.

The hives were large, and as no honey was ever taken from the interior, unless the bees were all sulphured, they usually had enough to winter on. The hive that was the first one that I called mine, already mentioned, was about 14-inches square, and the same in hight, somewhat larger and of different proportions as to width and depth than those in general use. It was placed on the north side of a long building where the sun never shone upon it except a little while in the early morning, and according to my best recollection it remained there without change or renewal of bees for some eight or ten years. So there could not have been much trouble in wintering.

But there came a time, for a number of years, when the moth worm or miller became very bad indeed. Whole

MR. THADDEUS SMITH.

apiaries looked as if they would be destroyed by them. We did not know then, as we know now, that it is only the weak and queenless colonies that are destroyed by the moth. Such is undoubtedly a fact where movable-comb hives are used, and some assistance can be given the bees in getting rid of the moth, but it did seem, in those days, that some of the colonies would succumb to their attack.

It has been said that wherever there is a demand there will be a supply. So we soon had offered us patent moth-traps, and patent moth-proof and moth-catching bee-hives. Agents with models, beautifully made of mahogany or rosewood, perambulated the country. The worms, (perhaps Prof. Cook would say I ought not to call these things "worms"—I may learn after a while, but excuse me for the present), when matured or dislodged by the bees, would fall to the bottom-board and take refuge under the bottom edges of the hive, and under the combs that came near the bottom, and I had to go early every morning and tilt the hive back and kill the worms. This was a pretty good non-patented moth-trap, but required close attention and work, accompanied sometimes with bee-stings.

My father set about to devise a better plan to get rid of these worms that fell to the bottom-board, and to break up their hiding-place and prevent them getting up into the combs again. He had the hives all raised from the bottom-board by driving a big nail in each of the four corners, leaving them to project three-quarters of an inch, forming an entrance that high all around the hive. These he set

upon smooth flat stones, that were easily procurable, from one to two inches thick, and laid flat on the ground, distributed all about over a large yard. Now when the worms fell to the bottom they had no place to hide, could not get back on the combs, so had to go to the ground, and many were picked up by the chickens and birds—the little brown house-wrens were often seen busy around the hives gathering these worms for their brood.

My father tried other projects—had hives placed in a house, and had the entrance to them through long flat tubes extending a foot or so outside the walls of the house, so the moth-fly could not find her way into the hive, I suppose. He had a theory that it was necessary for the worms to have access to wood for material to form their cocoons with, as we often see them scrape and cut into the wood of the hive to enclose themselves; and he got the idea of having hives made like common crockery or stoneware, but not being near to any crockery manufactory he failed to try the experiment. The hives placed upon the stone with an open entrance all around that was never closed or contracted, winter or summer, seems to have given the best satisfaction, for they were used in that way until I adopted the Langstroth movable-comb hive in 1863.

I remember some curious devices of my neighbors' One had a hive suspended by chains in a tree some 20 or 25 feet from the ground—to imitate the natural abode of bees in hollow trees, I suppose. Another had a bee-house with arrangements for getting surplus honey from *below* the hive instead of the usual way from the top. A trough-like box 12 or 14 inches square extended around the inside of the house, and was divided into compartments, and upon this box the hives were set, the bees having to pass through the box to get out. When they had filled the hives, they would fill the box below, and a trap door was arranged on the box so the honey could be cut out. He claimed that it worked well.

There was another curious bee-house in his front yard. It was a section of a very large hollow sycamore tree, probably four feet in diameter and eight feet high. It was placed upon a post a foot above the ground with a floor in it, and a neat, conical roof of shingles, with a staff in the top, and was quite ornamental. A door was sawed out and was hinged so that one could go into it; and in it an ordinary box-hive of bees was placed. When the bees filled the box they would build comb all over and around the outside of it. The door to the big "gum" was opened, and the honey outside of the hive cut off whenever needed, or as cool weather came on. I don't know whether this colony ever swarmed or not. Ontario, Canada.

(To be continued.)

Bee-Keepers' Exchanges—Organization and Co-operation.

Written for the Wisconsin State Bee-Keepers' Convention held at Madison,

BY C. A. HATCH.

WE have so often heard it said, "In union there is strength," that it has lost its power to affect our understanding. A single straw would not be much to match against a man's strength, and yet if that single straw be increased by numbers enough it can defy the strength of the strongest man.

An army would not accomplish much if each soldier ware allowed to go and do as he pleased regardless of every other soldier; but it is only when the soldier ceases to be an individual, and becomes a unit of the whole, that it becomes an army and ceases to be a mob, that effective work can be done, and it becomes a power.

ORGANIZATION.

Concentration and organization are the effective means of progress in the beginning of the new century. Unorganized labor is being pushed to the wall by organized. The manufacturer who is not in a syndicate, trust, or something of the kind, has a hard row to hoe. He may make just as good an article, and may be able to sell it for the same price as the trust article, but then comes in the item of freight-rates which is sure to down him if nothing else will. The large concerns have larger quantities to move, and therefore can ship by car or even train load, thereby getting lower rates, to say nothing of treaties with railroads whereby special rates may be obtained.

WHOM IT HELPS.

The small bee-keeper with only a small output is the one that an exchange can help most. He is one of the small straws that are to be bound together to make the strong rope. Ten men having one-tenth of a car-load each, by organizing, can have almost the advantages of him who produces a car-load himself. The large producer gains by having small lots where they can be controlled, and not put on the market at ruinous prices, to demoralize all prices.

Bee-keepers are of necessity more or less isolated, and hence can not avail themselves of the help of organization as readily as some other callings. But even these difficulties can be overcome.

ADVANTAGES.

The advantage of lower freight, both on goods shipped *by* members and goods shipped *to* members, is one of the advantages of bee-keepers' exchanges. Also the difference between buying at retail and in car-lots or large quantities is another advantage. This will apply to all supplies used by the members, as. for example, hives, sections, foundation, cans, and barrels.

Another of the advantages of a well-managed exchange is in the uniform grading of the bee-keepers' products. Few men are capable of grading their own honey in a proper manner, for they are either too partial to their own production and grade too high, or they are too diffident of their own success and modestly put it too low, and yet others are downright dishonest and think anything they can work off is all right; whereas, an honest, capable grader has none of these influences to draw him one side and warp his judgment, and therefore can give a uniform and honest grade. One of the trials of a dealer is in not getting a uniform quality from different producers, owing to their different ideas as to grading, and if an exchange could do nothing else this one thing would pay for all the trouble.

Not every bee-keeper, however good he may be at producing good crops of honey, is a good salesman, many a bee-keeper losing heavily in mismanagement in selling what has cost him so much hard labor.

In an exchange one can have the advantage of the concentrated wisdom of all the membership in selling, by selecting one of the best business men for business manager.

Uniformity of packages for both comb and extracted honey is another of the benefits of an exchange; being all bought at the same time and place, of course all would be alike, and, therefore, many of the trials over tare on packages would be overcome, dealers would become familiar with the packages used, and know just what shape it would come to them in. In fact, uniformity is the word that expresses most of the benefits. Uniformity of products as to grading, uniformity as to packages, and, last but not least, uniformity of price.

One kind and grade of honey would always bring the same price, no matter from what part of the State it came, and not as it now is—one producer competing against another producer, or even against his *own* products, as would be the case where shipped to two dealers in the same city.

COST OF CO-OPERATION.

Everything in this life costs time, labor, or money, and a honey exchange is no exception. It will cost both money and self-denial to accomplish anything worthy of the name. Postage, paper, and some one to carry on the correspondence, must be paid for; a room large enough to store a car-load of honey in, at some central point in the State, would have to be secured, and also the services of a salesman. But in my experience with honey exchanges, which has been quite extensive and varied, all these obligations of the members are more easily met than the self-denial required to say *our* honey is not a little nicer than neighbor B's, *our* opinion is of a little more value than any one else's.

If an exchange is to succeed, there must be a full and complete surrender of individual opinion to the rule of the majority. We must think our honey just what the grader makes it, and no more. Be honest yourself, and give others the credit of being the same, and half the troubles of organization will vanish.

There are other advantages in an exchange not mentioned in this paper, and on account of its length the plan of organization has not been mentioned, although much is

to be said on that subject; but if there is enough interest to start one in Wisconsin, there will then be time enough for plans of organization. Richland Co., Wis.

Can a Queen-Bee Be Worth $50, $100, $500, or $1,000?

BY G. M. DOOLITTLE.

OF late years there seems to have sprung, from the minds of some, the idea that if they would let the world know about a certain queen-bee which they have, the only way in which this can be done is to give the estimate they place on her in dollars and cents, that, apparently, being their highest idea of expressing value. And from this it comes about, that we frequently see in print that some have queens which they value at $25, $50, $100, and some even as high as $200; and so the question has arisen in the minds of some, if there is such a thing possible as that any queen-bee can be worth these figures; and whether such expression should be an inducement to buyers.

Commenting on this matter, the editor of the American Bee-Keeper wrote as follows:

"When a queen-breeder offers as his greatest inducement to buyers to send out queens from a mother valued at 50, 100, 200, 500 or 1,000 dollars, he should be regarded with suspicion. If he is not a fakir pure and simple, he is not what he appears to be in the eyes of the honest business world."

And what is a fakir? The Students' Standard dictionary says a fakir is "a street vender." But coupled with this is the idea, in the minds of most people, that this street vender does not scruple about recommending his goods in such a way, or in *any* way, which will enable him to dispose of them at a large margin of profit, relying on his ability to "hawk them up," rather than on the real value or merit there is in his goods, in proportion to the price asked for them. And this is the light in which the editor of the American Bee-Keeper looked at the matter of selling queens from a mother having only a dollar-and-cent value attached to her, according to my opinion, in reading that editorial. There is no *value* in a *dollar*. It is only a medium by which we can *exchange values*.

Commenting on this editorial from the American Bee-Keeper, Gleanings says among other things:

"Suppose at the beginning of the season some one should say to him [having a queen valued at from $200 to $1,000], 'I'll give you $50 for that queen.' He might reply, 'I'll get $1.00 extra on each queen of that stock. I expect to sell 1000 queens this season at that advanced price. If I hold on to her I shall be worth $1,000 more at the end of the season than to let her go and breed from another queen. I should be foolish to take $50 now for the prospect of $1,000 at the end of the season.'"

If we take that comment alone, it is just such an argument as any fakir would use, and it was just the point Editor Hill was striking at, if I read his editorial aright. And such an argument does not rise much above the definition of what a "fakir" is, as given in that same editorial in Gleanings.

But, happily, Mr. Root comes to the rescue near the close of his comments where he says:

"The laurels of our [$200] breeder do not rest solely on the long tongues of her bees. But long tongues or no long tongues, she [her bees] rolled in the honey last year, and is doing the same thing this spring in a way that eclipses everything else in the yard."

In this we have something of value expressed, while the simple saying that this queen "is worth $200," without any qualification, (save that, because she has been "hawked" up as worth $200, "I can sell $1,000 worth of queens from her"), expresses no value, save that which comes from the wear and tear of the lungs doing the hawking.

But let us take this value part and look at it a little, and see if it is possible for a fine breeding queen to produce value enough, (that may be exchanged for other values), which can be represented in terms as high as $50, $100, $500 or $1,000.

Take a queen in any of our apiaries which gives bees that do as Mr. Root says do the bees from his "breeder," and if they store 10 pounds more honey than do other colonies having common queens, that extra 10 pounds of honey, according to present prices, would represent $1.25 as food, or to exchange for value some one in some other calling may have produced, which we desire. Then, if that queen lives three years, her bees do equally as well each year, then she has a value, speaking in common terms, of $3.75, over and above the average queen in the apiary. If the average queen is worth $1.00 at producing values, then this queen is worth $4.75 for the real value of her bees, just for honey-gathering. So, then, we have it possible that a queen may approach nearly or quite to the $5.00 point of value, just from the honey her bees may gather.

Now let us suppose that we use this queen for the purpose of rearing other queens, that we may increase on the value there is in her bees over and above others for honey-gathering purposes. And to be fair we will say, (according to the way I find it in my apiary), only one queen in four will prove as good as her mother. If we rear 40 queens from this one, and 10 of them prove of equal superiority over the average queens in our apiary, as did their mother, we have the value of that mother-queen estimated in dollars and cents as $37.50. Now suppose we have 4,000 colonies we wish to requeen, (or we go out into the world to bless it with that number), and one out of every four proves as good as the mother, then we have $3,750 as the worth of that queen, from the extra value in honey the bees from her daughters bring in for the mouths of those famishing with "honey-hunger" in the world.

But can 4,000 queens be reared from a single mother? Oh, yes. With our present methods of queen-rearing, it would be easy for some of our largest breeders to rear 10,000 or even 20,000 queens from a single mother. Then it is possible, by keeping this mother-queen in a nucleus of bees the most of the time, to prolong her life to five, and even six, years, as some of our breeders can testify. And thus it will be seen that the value there is in a really good queen—one that is head and shoulders above the average of those in the country—may go even much above $1,000, as we commonly express ourselves.

But not to appear as a fakir, we should know that the queen has *real value* in the work accomplished by her bees and those from her queen daughters, putting that *work* out to the world as her real worth, rather than saying that "we value her at so many dollars." Onondaga Co., N. Y.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses. By E. E. HASTY, Sta. B Rural, Toledo, O.

BEES AND PEAR-BLIGHT.

That the bee might have carried the blight
Is a doctrine that some will indorse;
But between "might" and "did"
Quite a chasm lies hid.
The saint *might* have stolen a horse. —Page 294.

RUBBING A STING OFF QUICKLY.

I think Dr. Miller deserves credit for telling a questioner, 297, to dash out a sting instanter by striking the spot against the leg with a sliding motion. By not pinching the poison-bag, according to the directions usually given to beginners in the art of getting stung, one saves a little (imaginably) on the amount of poison received. But he gets a jolly increase of the amount by the *time* which following directions inevitably consumes. The sting, it should be remembered, is built on the model of a fire-engine, and keeps squirting as long as there is anything to squirt. And when there *isn't anything more to squirt*, why, then, what profit can there be either in haste or in methods of removal? People who remember and try to obey the injunction to remove a sting speedily, and to do it with a sharp knife-edge, I think they generally do so long after it is too late to gain anything by so doing.

ATTRACTIVE APIARIES.

"The Home Circle," on page 298, suggests among other things this inquiry: How much pains would I take to have my apiary look nice if it stood so isolated that I was sure no one but myself would look upon it? If my power of accomplishment is small, and every day finds me compelled to choose between several things which seemingly must be done, and the one which "must be done" the most, well, then the mere looks of the apiary will probably "get left." But we will suppose the conditions are not quite so trying as that. *For our own sakes* we should cherish and keep alive the capacity to take real pleasure and comfort from having our things look

nice. When that capacity is gone the man has degenerated. Pain is usually an evil thing; but sometimes it is a good thing. It would be "money in their pockets," and chips of salvation in their souls, if certain persons could feel real pain in seeing how their apiaries look. Very few of us fail to be influenced in some degree by the idea of a future life; and in the light of that hope it is a shocking beastiality to allow ourselves to lose our faculties. And it is a fool's flippancy to assume that some power over beyond will set right again all those inner qualities which we should have preserved and cultivated ourselves.

It is not likely that Prof. Cook intended to throw into very great prominence the idea of *surpassing our neighbors*. That should hardly be the leading thought. Do well, and then you *will* surpass all that do ill. If you have many wealthy and tasteful neighbors, presumably you *can not* surpass them all, and the attempt to do so will make you an ill-doer in the line of undue expense and neglect of things more important. In so far as we can rightfully take pleasure in being first, we may say, Blessed are those who *don't* live in Kalamazoo—blessed are those who live in Valley-hack! Much easier to be first in Valley-hack than in Kalamazoo. Did you ever notice in railroad traveling how sordid and unattractive things look for miles and miles, even in regions where you rather expected nice views? Well, my apiary and garden is in the Valley-hack which faces car windows: and it did me lots of good to hear of one of the car-hands remarking, "This is the nicest place we pass on our route"—plots of vegetables (and weeds) with beds of phlox between, and hives of bees, half hidden by trees, for background.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Management for Increase and Honey.

I have an apiary of 70 colonies, and would like to increase them to 140 this season. I would also like to get as much honey as possible at the same time (mostly extracted). I have enough brood-comb on hand to give each one almost a complete hive of comb. I have also abundance of extracting-combs, and a good many sections full of nice, white comb. The surplus obtained in this locality is from white clover, linden and goldenrod. The prospects for a good flow from linden are excellent. Supposing this to be your own case, how would you proceed to obtain the best results? MINNESOTA.

ANSWER.—I don't know what will be the best way for you. What is best for one person may not be best for another. What may be best for you in one place may not be best in another. On the whole, probably the very best way would be for you to study carefully all you can find in text-books and bee-papers so as to be familiar with the whole subject, and then block out your own plans. It may be that your best plan will be to allow each colony to send out one natural swarm, and prevent after-swarms by the plan given so many times in this department, which may again be given here for the sake of the newcomers who will need it about this time of the year:

When a swarm issues hive it and set the hive on the old stand, setting the old hive close beside it. A week later move the hive to a new stand. That will strengthen the swarm, and it will so weaken the old colony that it will give up all further thought of swarming. Of course, the swarm is what will give the crop of honey, and if an excluder is put between hive and super the super should be put on as soon as the swarm is hived. If no excluder is used, then the super should not be put on for a day or two for fear the queen may go up into it.

It is possible you may prefer to take matters into your own hands, for left to themselves you are not sure that every colony will decide to swarm. This plan may suit you: Take from No. 1 all its brood-frames but one, brushing all, or nearly all, the bees back into No. 1. Fill up No. 1 with empty brood-combs or frames of foundation. Put the frames of brood in a hive we will call No. 3, and set No. 3 in place of No. 2, removing No. 2 to a new stand. Do this in the forenoon, unless you do it in the afternoon at a time when large numbers of the bees are out for a play-spell. For a day or two all the field-bees that go out from No. 2 to forage will on their return enter No. 3. If you have made no other provision for young queens, No. 3 will take the matter in charge, and will start a number of queen-cells. About a day after forming No. 3, take from No. 1 the frame of brood that you left there, and give it to No. 3, of course, giving No. 1 foundation or comb to replace it. (If you do not leave No. 1 this frame of brood, the bees may be discouraged and desert the empty hive, and if you leave it more than a day or so they may swarm.) In seven, eight, or nine days after forming No. 3, take from it one more than half its combs with the adhering bees, putting them in a hive we will call No. 4, setting No. 4 on a new stand. About a week later than this take from No. 2 frames of brood, and give to No. 3 and No. 4 one, two, or three to each, depending on the strength of the different numbers. This will strengthen your newly-formed colonies, and it will prevent No. 2 from swarming. Circumstances may make it desirable to depart from these instructions, and they are not given with the feeling that it will be right to follow them in all cases. For if No. 2 should not be strong enough to make swarming feared, it might be better to take no brood from it, trusting Nos. 3 and 4 to build up without any help, and getting as much honey as possible from No. 2.

Colonies Visited by Robber-Bees.

The season here is excellent for honey. Bees are working early and late, but fail to get ahead—in fact, are losing on account of robber-bees from a neighbor's. To make sure, I closed my hives (two in number) yesterday, and the robbers were thick; being a different type of bees it is easy to know where they are from. Will you kindly tell me how to destroy or get rid of them? Also, what causes bees to go robbing?

My bees have not swarmed this season, while the robbers have swarmed twice, and are filling super after super. We are told the owner feeds the bees to make them rob. SUBSCRIBER.

ANSWER.—Your neighbor could not start bees to robbing yours by feeding his bees in his own yard. Putting feed in your yard would do more in that direction. Bees start to robbing when flowers are scarce for them to work on, and when a weak or queenless colony is within reach, especially if the hive of such colony is too open, so that the bees can not defend themselves. Exposure of frames of honey, as when hives are opened in a time of scarcity, will help to start robbing. As has been said lately in this department, if A's bees rob B's bees, B is the one to blame, and not A. You have no more right to kill your neighbor's bees that come to rob yours than you have to kill his cow that passes by on the highway. The thing to do is to keep your colonies so strong, or so closely shut in their hives, that robbers get no chance for a start at them; and, if robbing does begin, resort to the plans mentioned in your text-book, such as closing the entrance so as to allow only one bee at a time to pass, and piling up against it wet grass or hay; seeing that a good queen is present, etc.

Preventing Increase—Other Questions.

1. How would it do, to prevent increase, when the bees swarm get the queen and kill her, or take her away from the swarm and return the bees to the original colony?

2. When the bees are smoked they fill themselves. What do they do with that honey? Do they retain or redeposit it where it came from?

3. Does it matter whether the bee-space is regular between the lower frames and the sections above?

4. Will the bees work above when the spaces between the frames and the sections are irregular, or partly closed by misfit of the sections? MISSISSIPPI.

ANSWERS.—1. It will not do at all, if you stop at that. It will do all right, if you follow up the matter in the right way. If you return the swarm without the queen, in about eight days the bees will be sure to swarm again with a young queen, and perhaps two days later another swarm will issue, and there may even be three or more swarms. To prevent that you may do one of several ways. You may return each swarm as fast as it issues, and when all the queens have hatched out the swarming will cease. You

may cut out all queen-cells but one, a week after the first swarm. You may listen for the piping of the young queen in the evening of the seventh day after the swarm issued, and if you do not hear her then, listen every evening till you do, or till the sixteenth evening; when you hear piping cut out all queen-cells next morning. You may hive the swarm when it issues with the young queen, and put it in the cellar till the evening of the next day, and then return it to the old hive. By that time the bees will have disposed of all the queen-cells.

2. It is probably redeposited, in most cases.

3. It matters much. If the space is less than about ¼ inch, the top-bars will be cemented to the parts over them with propolis or wax. If the space is more than about ¼ inch, burr-combs will be built and filled with honey.

4. The bees will work in the super no matter how irregular, even if half the spaces are so close together that they can not get up through them.

Using Old Combs for Swarms.

If you had empty combs that the bees had died on last winter, would you put in as many such frames as the hive would hold to hive new swarms on, or would you put in some frames with only starters or foundation in them? I work for comb honey. WISCONSIN.

ANSWER.—I would fill up with combs as long as they last. There is no better place for combs to be protected than in the care of the bees, and the sooner the bees get the combs the better.

Bees Deserting the Hive.

I had a swarm of bees leave a hive June 1. In the spring I transferred the bees from an old box into a new hive; for a while they seemed to be doing well, building up their broken combs, and were gathering honey. About noon June 1 they left the hive, taking the queen, young and old bees with them, and leaving unsealed fresh honey, young bees just gnawing out, and bees in the larval state. There were no mice or ants to bother them. The hive was clean, and they had plenty of honey, and when I looked in the hive there were only five or six bees—robbers, I suppose. COLORADO.

ANSWER.—I don't know what the trouble was. Very likely it was a case of what is called spring dwindling. I have had colonies desert their hives just as yours did, leaving honey and brood in all stages, with no apparent excuse that any self-respecting colony would give for leaving, and the only thing that I could guess in the case was that the old bees had died off, and there was more brood present than the young bees could take care of. You may have trouble of the same kind again, and you may not have another case in years.

Too Rapid Increase—City Bee-Keeping.

I started the season with four colonies, which, up to date, has increased to ten, and one ready to swarm. I have one colony that is working in the supers. We have plenty of white clover, and I think will get some honey soon.

1. I have one colony which has cast two swarms, that seems to be about half drones. What is the cause of so many, and what will be the result if let alone?

2. My bees are a good quality of Italians—the best in this section. I live in the city, and don't branch out very strong. Now, what would you advise me to do? I am a dry goods clerk, and have not much time. I can sell a few colonies now. Would it be a good idea to rent pasture close to town, and try to take care of the over-supply, or not? ILLINOIS.

ANSWERS.—It may do no great harm before answering your questions to make the gratuitous suggestion that you may make the mistake that many a beginner makes, and increase too rapidly. When you increase from four to ten or more, your colonies will not be as sure to live through the winter as if you were satisfied with a more moderate increase. Neither will you get as much honey. Of course, if you are anxious for increase, and will give them the proper care, feeding all that is necessary, you may pull through all right.

1. If the drones are so plentiful immediately after casting the swarms, the trouble probably is that there is a great deal too much drone-comb in the hive. If the drones appeared in plenty not until two months or so after the last swarm issued, then the trouble may be that you have a drone-laying queen, or laying-workers. If the trouble is from too much drone-comb, then your bees will gather less honey than they otherwise would, and much of it will be wasted in rearing and feeding those useless consumers. If laying-workers are present, or a drone-laying queen, it means the destruction of the colony.

2. What do you want to rent a pasture for? If you mean for the bees to feed upon, they will not thank you to rent it, but will find it if it is within two miles of your home. You can keep in a city yard as many bees as can find pasture within reach.

Bees Not Working.

Bees are building up fast. I have a colony that has a queen, but the bees work hardly at all, scarcely any of them coming out. What is the matter? They have some honey. I will Italianize about the middle of this month. I lost heavily the last winter, because of short stores last fall. OKLAHOMA.

ANSWER.—There may be nothing the matter except that the colony is very weak. The presence of a queen can not of course warrant a goodly number of bees flying unless there are plenty of bees present. Look and see whether the queen is a drone-layer. If not, you will probably see bees flying well as soon as the colony is a little stronger. If it should turn out that there are plenty of worker-bees in the hive, and very few of them flying while other colonies are busy, then it may be well to change the queen and give them one of more industrious stock.

Perhaps Pickled Brood.

I bought five colonies of bees this spring in movable-frame hives. Three of which I looked into and found dead brood, which looks watery, and lies on one side. There is no smell about it yet. It doesn't seem rubbery, or anything like that, and will not draw out with a toothpick. Will the swarms have the same disease? What will become of foul or pickled brood if not attended to? What can be done for them? NEW YORK.

ANSWER.—When anything so serious as pickled brood is suspected, it is too serious a matter to be treated by a few words in this department, especially as it would take up too much room. Study up the subject fully in back numbers, and get the leaflet on pickled brood, if you do not have it already. Very likely as honey comes on now plenty you will find the disagreeable symptoms largely to disappear, but none the less you should inform yourself so as to battle it, for it will be a safe thing to count on its reappearance in the future.

Thinks Late Thin Honey Injures the Bees.

There is a plant here that has yielded honey in October for the last two years. The bees have filled the brood-chamber full of this thin honey, and when they had the first flight in the spring they soiled the hive badly, both inside and outside around the entrance. I lost half of my bees, and the other half are weak. It seemed to affect the queens. I would like to know how to keep this thin stuff out of the brood-chamber. If I put sections on would they not put it in the brood-chamber as long as they had room? How would it do to run it through the extractor without uncapping it? If there would be any brood in the hive at the time would it not kill it? I believe the honey is from the asters. OHIO.

ANSWER.—I'm afraid I don't know enough to help you out. There is a possibility that you may be mistaken about the honey from that late plant being the cause of the mortality among your bees. But if you are satisfied that extracting without uncapping would help matters, you can do so without hurting the brood. So long as you do not turn the extractor fast enough to throw out the brood you are all right.

The Premiums offered this week are well worth working for. Look at them.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

The Treasures of Nature.

"From the drift of a star to the drift of a soul,
The world is all miracle under control;
The butterfly's wing and man's reverent awe,
Alike wear the chain of inscrutable law;
A law that allures us, but ever eludes,
That baffles our groping, but never deludes;
We never can hold it; it holds us secure;
And the wisest in reading shall longest endure;
A Faith-bow of promise, a promise replete—
Forever fulfilling, but never complete;
We chase where it beckons, and gather the gold,
And lo, on before us, new treasures unfold!"

THE STUDY OF NATURE.

In my teaching in college, I find in some of the students an almost insurmountable disrelish of handling insects, and they come with no alacrity to the work of dissecting. Others, no whit less refined and sensitive, in a general way, show no such squeamishness. We dissect cats at first, and then other animals. I regard this knowledge secured, not from books but from handling the real things, as of great value. The same is true in regard to the study of caterpillars, beetles, and bugs. The distaste is often erratic in the extreme. Thus nearly every girl will take into her hand, even at first, the beautiful, little lady-bird beetles, while she will shrink away appalled at a ground-beetle or caterpillar—will shudder if a myriapod is handed to her, and actually turn pale at the very thought of touching a spider. I think all this unreasoning, and unreasonable disgust, is unfortunate. The possessor, unless cured of it—and it is a malady difficult of cure—will lose much of the beauty that she would otherwise get. Every girl may be required, as a duty, to dress a chicken or a rabbit; to dissect carefully a cat will teach her to do the other more intelligently, and will give her an insight into her own structure and physiology that will be of great value, and which can be gotten in no other way.

The insect world touches us in many ways. They annoy us and our domesticated animals. They prey upon our crops to the annual tune of millions of dollars. The best success in life demands that every home circle shall know—and so study—these myriads of friends and foes—for all are not enemies—that they may prepare to wage battle in case the intruder comes with intent to injure. Insects are ubiquitous—that is, everywhere. We run against them at every turn. Not to know them is surely most unwise neglect. Indeed, that man is best equipped who knows most about the things that he runs against in all his daily walk. The little malarial animal is very small, but it can destroy the red blood corpuscle. To know of it and its work enriches the world. To know that a mosquito inoculates us with this often fatal protozoan, by its bite, is even more valuable, for it shows us how we may fence off disease and even death.

Thus this knowledge of these hosts that everywhere encompass us about is vastly practical, and stupid indeed is he or she who does not grasp every opportunity to gain such knowledge.

Again, no study does more to quicken and develop observation than this. The person who sees everything, and sees it well, is mightily strengthened for life's big fight. As students work in geometry, they often say that they can almost feel their brains grow. So students of entomology often remark, on their increased facility to find insects, and to find and see correctly minute and obscure parts, as the study goes on.

Just here is suggested a duty for every home circle. I have shown before the value of the walk in the woods, the Sunday stroll with the children by wayside and meadow. These are very golden days to foster this love of nature. They are often times when it is hopelessly crushed. The mother, mayhaps, is taking her first walk with the little boy or girl. They come upon a lovely caterpillar or beautiful beetle. The mother shrieks and jumps back. The little one has a lesson and an impression that it will take long schooling to correct. It has then and there gained an abhorrence that will rob it of great pleasure, and will very likely prove a handicap in life's work. I have always rejoiced that my mother was not appalled at the sight of grub or spider, and that she early taught me to see the beauty in both. I shall never outlive the pleasant memories which came with teaching my own little ones to admire and love these gems, sown so thickly about us by God's own loving hands. I rejoice the more as I know that my dear ones are much better equipped for life's journey, and are much better prepared to get more of pleasure and profit from it.

I urge all in our home circles to be interested in everything about them, to study and observe, and I am free to say that nothing offers so rare an opportunity as these myriads of wonderful insect forms, of which our honey-bees stand at the head. I question if we can bequeath a more blessed legacy than to awaken in the minds of our children a love for and interest in these gems of the landscape. No father or mother is foolishly employed who spends generous hours in encouraging the little ones to just such observation and study.

In a future article I will give some hints as to methods of procedure. I will explain how valuable collections may be made, and how such work begets a love of nature, order, and beauty.

THRIFT.

Thrift, I take it, is earning more than we spend, and never purchasing until we can pay. That is what my father taught me. He urged it as a most important rule of life. Does not our friend, Mr. Doolittle, recognize this as a certain basis of happiness? The thrifty—honestly thrifty—man holds his head higher, walks more erect, feels more self-respecting, is more a man. While thrift may not be, is not, the best gift to covet, it is a worthy one. So of our nation. She for the past few years is purchasing far less than she sells. That is, her income is far in excess of her outlay. In other words, her exports of bread-stuffs, manufactured articles, and raw materials, are far in excess of her imports—of tea, coffee, sugar, and such other articles as she needs. She is thrifty. And Mr. Doolittle and I are both rejoiced. We are happier than though she were buying more of value than she were selling.

I believe Mr. Doolittle is exporting in excess of his imports. That is, his honey-sales, etc., are greater in amount than his purchases of clothing, supplies, etc. Thus he, like our goodly country, is thrifty. I rejoice that it is so.

I hope this explains my logic. I regret that I did not make my meaning plain to all before. I thought as I commenced reading Mr. Doolittle's criticism that he was going to say: Why rejoice, for our thrift means unthrift for our neighbors across the water? I do regret that. The entire world looks enviously at our commercial progress. They are alarmed at our increased thrift. They watch our continued and rapidly increasing prosperity with almost consternation. That should make us no less energetic, or frugal. It should make *them* hasten to study our methods, and to adopt our practice.

QUESTIONS AND SUGGESTIONS.

Mr. Doolittle's kindly paragraph causes me to urge others to ask questions and make suggestions as to these "Home Circle" papers. I wish to make them helpful to all the readers of the "Old Reliable." One reader kindly urged me to read Henry George's "Progress and Poverty." This friend actually sent me the book. I am studying it carefully, and when it is digested I shall bring it into "The Home Circle." It has valuable suggestions.

Will not all contribute? Send me valuable recipes, hints as to living and economies, gems cut from newspapers—any and every thing that will help to make our homes more bright and happy. Send to me thus: A. J. Cook, Claremont, Los Angeles Co., California.

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

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The Press Publishing Association will give **$15,000** in **1,000 Cash Prizes** to those making the nearest estimates on the combined Official Vote of **Ohio, Massachusetts** and **Iowa,** cast for Governor on the 5th day of November, 1901.

Estimate the total vote in these three States combined for **Governor** and send your estimate and subscription to the American Bee Journal, and you will receive a certificate, which will entitle you to participate in the distribution of the **$15,000** to be awarded by the Press Publishing Association, of Detroit, Mich., to those making the nearest estimates of the Official Vote for Governor in the States of Ohio, Massachusetts and Iowa, to be determined by the Election held on the 5th day of November, 1901.

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Valuable Information.

To aid subscribers in forming their estimate, we furnish the following data :

The combined Official Vote in these three States in

1891 was	1,537 493		
1892 was	1,684,420	increase	9.56 percent
1893 was	1,616,422	decrease	4.04 percent
1894 was	1,533,887	decrease	5.10 percent
1895 was	1,576,452	increase	2.77 percent
1896 was	1,926,718	increase	22.22 percent
1897 was	1,572,109	decrease	18 40 percent
1898 was	1,532,540	decrease	2.52 percent
1899 was	1,653,389	increase	7.89 percent
1900 was	1,965,610	increase	18.88 percent

The certificates of the Secretaries of the States named showing the Combined Official Vote will determine who are entitled to the Prizes, and the awards will be made within 30 days after the Official Vote is known.

The American Bee Journal will publish the names of the successful Estimators.

Statement of MR. W. A. PUNGS,
President of the Central Savings Bank, Detroit, Mich.:

I HEREBY CERTIFY, that the Press Publishing Association has deposited **$15,000** in the Central Savings Bank, Detroit, Mich., for the express purpose of paying the Prizes in their contest on the Combined Official Vote of the States of Ohio, Massachusetts and Iowa, and that this fund can be used for no other purpose.

W. A. Pungs

President Central Savings Bank, Detroit, Mich.

PRIZES to be Awarded as Follows:

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To the 3d		1,000
To the 4th		500
To the 5th		300
To the 6th		200
To the 7th		100
To the 8th		75
To the 9th		50
To the 10th		25
To the next 10 nearest	$15 each =	150
To the next 35 nearest	10 each =	350
To the next 142 nearest	5 each =	710
To the next 160 nearest	4 each =	640
To the next 180 nearest	3 each =	540
To the next 200 nearest	2 each =	400
To the next 260 nearest	1 each =	260

Total, **997** prizes, amounting to **$12,800**

In addition to the above Prizes, the following Special Prizes will be paid.

To the person making the nearest correct estimate before July 10	$1,000
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GENERAL ITEMS

Good Honey-Flow Expected.

We have just had a couple of good rains, and it looks as if we would have a good, old-fashioned flow of white clover honey. We have had no rains to amount to anything for nearly two months, and I had about given up hopes of a clover crop. A. N. DRAPER.
Madison Co., Ill., June 7.

Drouth Will Cut the Honey Crop.

Our bees have been storing honey nicely for about two weeks, but the protracted drouth will cut our honey crop short, as the white and alsike clovers are drying up or dying, and there is but little sweet clover growing near. DAVID SHARP.
Cass Co., Mo., June 8.

Bees Did Not Winter Well.

The bees came through the winter very weak indeed, but have built up much better than I expected, so I can hope to get something, at least. MATHILDE CANDLER.
Grant Co., Wis., June 6.

Keeping Down Increase.

I see a good chance for Dr. C. C. Miller to get into a dispute in regard to an answer to a question on page 328, in which he says:

"If your object is to keep down increase, perhaps this plan might suit you better: When the colony swarms kill the old queen and return the swarm. A week later cut out all the queen-cells but one, and the work is done. There will be no more swarming for that colony until another year."

That may be so in some locations, but it will not work everywhere, as I have had swarms many times after hiving first swarms by themselves and cutting out every queen-cell but one 7 days after the swarm issues. And I have then had swarms from the same colony again in from 6 to 8 weeks. I also have virgin swarms from almost every prime swarm. C. H. HARLAN.
Kanabec Co., Minn., May 27.

Good Outlook for a Honey-Crop.

My winter and spring losses have been very heavy and it has been cold with much cloudy, rainy weather (it is raining to-day), and the wind seems to hang in the northeast. But the honey outlook is fine; clover is very plentiful as none of it was winter-killed, and basswood seems to be setting full. The biggest drawback with me is the bees, but they seem to be building up fast now, and may be in good condition for the flow.

I visited R. L. Taylor's apiary, May 25, and his 200 colonies are in excellent condition, most of them ready for the supers, with the clover flow two weeks ahead. He wintered his bees in the cellar, and I wintered mine outdoors. E. B. TYRRELL.
Genesee Co., Mich., May 29.

Long-Tongued Bees.

From a Southern standpoint I read with some satisfaction G. M. Doolittle's article on page 293, and Dr. Miller's reply on page 326. I feel quite sure that Mr. Doolittle is very willing that the people of the red-clover belt shall get the benefit of this bloom, and am also sure that he meant to cast no reflections on the honesty of the people at Medina. I am of the opinion that these articles will do good. While no sensible man will doubt the advisability of having long-tongued queens in some locations, there are other places where no benefit whatever would be derived from them. In my own locality (southern Georgia) bees with a 25-100 reach would store

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Sweet Clover (white) 70c	$1.20	$2.75	$5.00	
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White Clover.....90c	1.70	4.00	7.50	
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Japanese Buckwheat 30c	.50	1.00	1.60	

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no more honey than our shorter-tongued bees, other qualifications, of course, being the same. Although Root closes his advertisement with an "N. B.," saying that the rank and file of beginners have no use for such queens, still they will buy them, and it was this class of bee-keepers that Mr Doolittle was desirous to *halt*.

If some enterprising queen-breeder will get up a non-swarming strain, a greater benefit will be conferred upon the bee-keeping fraternity than tongue-reach. By this improvement all of us, from the red clover fields to the orange blossoms, and from buckwheat to sage of the West, will jump for joy.

Hurrah for long-tongued queens, for Dr. Miller and the red clover folks! and hurrah for bees that don't swarm, for "we 'uns!"

Dodge Co. Ga. F. M. CREIGHTON.

Best Honey-Flow in Years.

Bees are booming on white clover, and the honey-flow is the best we have had in years. White clover is literally taking the country, for which I am sorry (?).

We are in sad need of foul-brood legislation in this part of the State.

W. T. STEPHENSON.

Massac Co., Ill., May 31.

At Work on Raspberry and Clovers.

Bees are working very busily on raspberry, white clover and red clover, both clovers being in bloom now. The prospect for basswood is not as good as in former years, but the clovers are better. L. G. BLAIR.

Grant Co., Wis., June 3.

Bees Will Not Eat Pasteboard.

Tell Dr. Miller that bees will not eat pasteboard in this country, so I lost one of the queens he sent me last year. The other one is doing well.

Bees wintered poorly, but are doing nicely this spring. J. KENOYER.

Whitman Co., Wash., June 1.

"Are There Any Queen-Breeders?"

This is the heading of an article in the Progressive Bee-Keeper, by F. L Thompson, in which he says:

It is about time that bee-keepers understood that queen-*breeders* are a different class from queen-*rearers*. There are plenty of queen-rearers, who will tell you they breed queens by the most approved methods—artificial cups, nurseries, specially prepared colonies, and what not. But rearing is not breeding. Are there really any queen-*breeders*? I *think* there are a few—I really don't know whether there is *one* who applies those principles of selective breeding which good stock-breeders do.

Inbreeding.

This has brought ruin to many an apiary where bees were left entirely to themselves, the bees "running out" for want of fresh blood, and yet some of the greatest triumphs of scientific breeding have been through that same inbreeding. The following from the Rocky Mountain Bee Journal is by F. L. Thompson:

It is well known that stock-breeders practice inbreeding largely, in order to secure a greater proportion of prepotent individuals, and a higher degree of prepotency, than would be the case by watching for chance cases. But there is a popular idea that inbreeding is bad, very bad. There is some truth in the popular idea, but also considerable error. Hence, it will pay to be posted also on inbreeding; for even now some queen-breeders largely control the drones, and hence could, and perhaps do, practice selective inbreeding; and in the near future it is probable that mating in confinement will be attained, whereby the drones will be absolutely controlled.

Now, the experience of the best authorities is that inbreeding is not, in itself, of any detriment whatever. The instances of vigorous animals which have been inbred for many generations are too numerous for the popular idea to be altogether true, for this reason: If the two parents have any common tendencies, their offspring will have those tendencies doubled. Of course, this is more liable to happen with related parents than when they are not related. Hence, if any of those common tendencies are bad, they will be approximately twice as bad in the offspring. On the other hand, if they are good, inbreeding has none but good effects.

The practical application of this is, that if one wants a fixed and prepotent strain of bees, the breeder who breeds closely is more apt to be able to furnish it than those who do not, always provided—and this is important—that he is thoroughly acquainted not merely with the details of queen-rearing, but also with the application of the principles of selective breeding. It should be remembered, also, that there are various degrees of inbreeding. To mate parent and offspring has only half the effect, for good or evil, of mating brother and sister. At present, on the whole, it may be better to avoid stock in bees likely to be inbred, but as soon as queens will be mated in confinement, the case will be altered.

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That covers the whole Apicultural Field more completely than any other published, send $1.25 to
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Tennessee Queens!
Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3¼ miles apart, and mated to select drones, $1.50 each; untested warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and but few within 5 miles. 28 years' experience. Discount on large orders. Contracts with dealers a specialty. JOHN M. DAVIS,
6A2ot Spring Hill, Tenn.

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Write John Y. Calahan, General Agent, 111 Adams St., Chicago, for full particulars and folders showing time of trains, etc. 11--24A3t

Best Averages from New Colonies.

A Stray Straw in Gleanings in Bee-Culture says:

Sometimes it is said that a beginner gets a yield of honey that he never after equals, because his first enthusiasm is gone. I believe that's a libel on many of the veterans. A bee-keeper may ride his hobby so hard as to kill it, but they don't all do it. Just 40 years ago I took the bee-fever, and the temperature is just as high now as it was then. I'm looking forward to some things I want to do with bees next summer with just as keen a relish as I had 40 years ago. The extra results achieved by a beginner are largely to be credited to the fact that he has a small number of colonies, and so the bees have a better harvest.—[Your last sentence explains it. In the "A B C" book the statement is made to the effect that the average yield per colony will be much larger in a small apiary, remote from any other yard of bees, than in larger apiaries.—EDITOR.]

Wax-Worms in Pure Wax.

It has generally been considered that pure wax, as in foundation, is in no danger of being trombled by the wax-moth, at least some pollen being necessary to support the larvæ. G. M. Doolittle reports in the Progressive Bee-Keeper that he found the work of wax-worms in foundation that had been kept in a warm place near the roof.

Sweet Clover Not a Weed.

The following question and answer appeared in the Wisconsin Farmer:

MR. EDITOR:—Will you please tell me all about sweet clover? I would like to know whether it is good as a fertilizer or pasture, or whether it is good for nothing. Some tell me it is nothing but a weed. Others tell me it is the same as red clover.

ANS.—Sweet clover (Melilotus alba) is a legume, as are other clovers, and because of this fact exerts a similar effect in the renovation of worn-out soils. In the North, generally, it is regarded as a weed. Some States have legislated against it as one of the noxious weeds to be destroyed, along with the Canada and Russian thistles. In the South one or two experiment stations have commended it, both as a forage-plant and as a source of fertility. It very early becomes woody, and loses whatever value it has as a forage-plant. It has a peculiar taste of its own to which cattle have to become

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Excellent shipping facilities and very low freight rates for Southern and Eastern territories.

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Basswood and Alfalfa Honey

in 60-pound tin cans, f.o.b. Chicago—two cans in a box—at these prices: 9 cents a pound for one box of two cans; two boxes (4 cans) or more at one time, 8½ cents a pound.

We have only a limited quantity of the Basswood honey. Sample of either kind, postpaid, 10 cents. Address,

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26 cents Cash paid for Beeswax.

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Red Clover Queens

LONG-TONGUED BEES ARE DEMANDED NOW.

ONE Untested Italian Queen FREE as a Premium for sending us TWO new subscribers to the American Bee Journal for one year (with $2); or, one Tested Queen free as a premium for sending us FOUR new subscribers with $4.00).

We have arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us the coming season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

All queens guaranteed to arrive in good condition, and all will be clipped, unless otherwise ordered.

CASH PRICES of these fine queens will be as follows: Untested, $1.00 each; Tested, $2.00 each. Send all orders to

GEORGE W. YORK & CO.
144 & 146 Erie St., CHICAGO, ILL.

accustomed before they will eat it; generally they have to be starved into eating it. While there are some differences of opinion about the place the sweet clover should occupy, our judgment in regard to it in the middle West is that it is a weed, which only means, according to the old definition, "a plant out of place."

It is our opinion that the plant is not so much "out of place" as the man on whose farm it grows; for the man in this age who has not learned the value of sweet clover as a farm crop would better not farm until he has called on some intelligent bee-keeper who can tell him the value of this wonderful legume. Another man would seem also to be "out of place," and that is the agricultural editor who does not know any more about sweet clover than this answer would indicate.—E. T. Abbott, in Modern Farmer and Busy Bee.

Feeding in the Open Air.

This is objected to because colonies that need least get most, and because neighbors' bees can not be excluded. It has the advantage that it seems a little more like a natural harvest than feeding in the hive. M. A. Gill says in the Rocky Mountain Bee Journal:

I hardly dare advise beginners to feed in the open air, but practice that plan myself. I feed in troughs filled with alfalfa stems, or open vessels with a piece of burlap thrown over to prevent the bees from drowning. I feed at 2 to 3 o'clock p.m., giving each colony from one-half to a pound of honey or syrup made as thin as raw nectar. After feeding in this manner for a couple of days, if I have any brood-combs filled with honey, I uncap them and hang not more than three in an empty hive, equally spaced apart, and let the bees have it. If properly done, there will be no trouble from robbing. I had as soon feed 100 colonies in the open air as 100 pigs, provided my neighbors do not have too many bees.

The Lowest Temperature for Comb-Building.

S. E. Miller reports in the Progressive Bee-Keeper that he had comb built in March when the outside temperature varied from 18 to 72 degrees, the average being about 45 degrees. He asks what is the lowest temperature at which comb-building can be carried on, and answers from three different men are given. J. W. Rouse frankly says he does not know, but thinks it can hardly be below 50 degrees. G. M. Doolittle says that bees can build comb in zero weather. Dr. Miller goes still lower, and practically says that no colony of bees has ever lived through a temperature so low that it would not admit of comb-building. Mr. Doolittle says the heat *inside the cluster* necessary for comb-building and brood-rearing is from 90 to 98 degrees, and Dr. Miller explains how it is that the colder the weather the warmer it is in the center of the cluster. His answer is as follows:

If you mean at what temperature of the brood-nest bees can build comb, it may be replied that it is somewhere in the nineties, probably. From your accompanying remarks, however, it seems that you mean the temperature of the atmosphere surrounding the hive. That's another thing, and the temperature depends somewhat upon the strength of the colony.

If a single bee is exposed to a freezing temperature, it will be a dead bee in a short time. Possibly it ought not to be called a dead bee, for it can be revived if brought into a warm place if it has not been left frozen too long. If there be a cluster of bees, the bee in the center of the cluster will not succumb to the cold as soon as a single bee, but it will succumb. If there be 50,000 bees in the cluster, with plenty of stores within easy reach, a freezing temperature will not affect them unfavorably at all. And a much smaller cluster

than 50,000 will withstand without injury the same temperature.

Somewhere between the single bee and the cluster of 50,000 there must be found the smallest cluster that will withstand a temperature of 32 degrees, and a cluster of any less size will succumb. What the size of that cluster is I do not know. I wish I did.

It is also true that a cluster of 50,000 bees will stand a temperature much lower than 32 degrees, for bees, to a certain extent, make their own temperature. Somewhere in the neighborhood of 50 degrees is as low as bees seem to like in winter, for the temperature of the outer part of the cluster. When it gets below that there will be a stirring of the cluster to increase the heat, each bee being a little furnace with honey as fuel.

Suppose that the air surrounding the cluster is at 40 degrees. Suppose, also, that the temperature of the cluster is 50 degrees, and that the bees are entirely dormant. In that case it is quite clear that the cluster will gradually cool down till it is of the same temperature as the surrounding air. But the bees are not dormant, and they will at once proceed to bring up the temperature. Just so long as the cluster is warmer than the surrounding air, heat will be given off from the cluster, and a continual production of heat will be necessary to replace that which is lost by radiation. That radiation is always of necessity from the outer surface of the cluster, so the outer surface will always be cooler than the center, or, in other words, the center will be somewhere above 50 degrees.

Now, suppose the outer temperature keeps getting lower and lower. The lower it gets the more rapid the radiation from the surface of the cluster, and the heat in the center of the cluster that was sufficient when the surrounding air was at 40 degrees will no longer suffice. So the heat must be increased in the center of the cluster, and when the outer air becomes cold enough the heat in the center of the cluster will rise to that of summer, and we have the paradox that the colder the weather the warmer the cluster.

It must not be understood that the heat in the center of the cluster must depend entirely on the surrounding temperature. Anything that excites the bees to greater activity will increase the heat of the cluster, so that temperature *may* be brought up at any time; but as the outside temperature lowers, the inside *must* be brought up, if the colony is not to perish.

With these principles fairly understood, we are ready for the question, "What is the lowest temperature of the air surrounding the cluster that will allow the bees to build comb?" The answer is that the colder the surrounding air the more nearly will the heat of the cluster be to the point of comb-building, so there is no degree of cold so severe that comb-building may not take place unless so severe as to stop all vital action, a degree that is never reached under the natural conditions when a strong colony has plenty of stores within easy reach.

It may occur to some one to inquire: "Why is it we are so constantly told that about 45 is the proper temperature for a cellar, if 50 degrees is the temperature to which the cluster must be raised? Why not have the cellar at 50 degrees, and save the bees the trouble of raising the additional 5 degrees?" The answer is easy. Practical experiment has shown that bees are quieter at 45 degrees than at 50 degrees. That answer may silence, but with some it will not fully satisfy. Well, then, the answer may be something like this: The bees are never entirely dormant, so they are always producing a little heat, and if the surrounding air be at 50 degrees, then the additional heat produced by the bees will run it above 50 degrees. Moreover, it is not possible to keep the air of the cellar constant, and if it is a little too cold the bees can bring it up, but if it is too warm they can not cool it down.

Send for circulars regarding the oldest and most improved and original Bingham Bee-Smoker. FOR 23 YEARS THE BEST ON EARTH.

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THOSE

Long-Tongue Adels

BEAVER, PA., April 4, 1901.

From one 3-frame nucleus you sent me I took 213¼ pounds of extracted honey.

WM. S. BARCLAY.

Each Queen, $1.00.

Essay, "How Not to Rear Queens," sent free.

24A4t **HENRY ALLEY, Wenham, Mass.**

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LEARN TO SING

AT HOME by my thorough method of training. With my complete course I guarantee to train and cultivate your voice or refund your money. The best musical knowledge arranged especially for Home Study. Its Highest Endorsement. Beautiful descriptive booklet sent free. Address Prof. C. M. Whaley, Kalamazoo, Mich.

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A Home in Colorado FOR SALE

I have a fine Fruit-Ranch of 14 acres here at Fruita, all set to fine fruit, principally winter apples, with plenty of small fruits, peaches, pears, plums, cherries, apricots, prunes, and about 700 grapes; 100 colonies of bees, mostly Italians, and about 100 fine Belgian hares that I will sell with the place. The orchard is in fine bearing, being about 10 years old, and is clean and free from weeds. The house is a good 7-room one, nearly new, with bath and water; a good new barn for two horses and two cows; good brick hen-house and two good cellars, good lawn and shade. I have a paid-up water-right with the place, with an abundance of water at all times for irrigation. I am desirous of making a change in my occupation, and will sell the place **at a bargain.** With the proper party the yield from the place this year will be about $2,000. It joins up to within 20 rods of the town site of Fruita, where we have one of the best high schools in the State, employing 7 teachers. It is only ½-mile to the depot, churches, school and post-office, and has telephone connections with all parts of the State. This is a good, healthy climate, and good society.

Address for terms and further particulars,

J. C. CARNAHAN,

Box 64, FRUITA, Mesa Co., COLO.

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Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, June 7.—Not any new comb honey has come to this market up to date hereof, but promises are being made for some before the month closes. A little good white comb still on sale, which easily brings 16c; not much of any other kind here. Extracted very dull, practically no sales made. Beeswax firm at 30c.

R. A. BURNETT & Co.

DETROIT, June 8.—Strawberries are taking the attention, and very few sales of honey are made, but prices seem to keep up on good lots. Beeswax in fair demand at 27@28c.

M. H. HUNT & SON.

CINCINNATI, May 17.—No demand for comb honey, also stock of it well exhausted. Extracted very dull; sales are more or less forced; lower prices from ½ to 1 cent per pound.

C. H. W. WEBER.

BOSTON, May 21.—Our market continues dull on honey with very light stocks on hand. Our normal prices are as follows: Fancy 1-pound cartons, 17c; A No. 1, 16c; No. 1, 15c; No. 2, 12@14c. Extracted from 6½@7½c.

BLAKE, SCOTT & LEE.

OMAHA, May 1.—Comb honey, extra white, 24-frame cases, per case, $3.40; No. 1, $3.25; amber, $3.00. PEYCKE BROS.

NEW YORK, June 1.—Extracted honey is exceedingly dull and very little moving. We quote for the present: White, 6½@7c; light amber, 5½@6c; amber, 5@5½c. Some demand for comb honey at unchanged prices. New crop is now beginning to arrive from the South, and sells at from 12@15c, according to quality and style. Beeswax, 29c. HILDRETH & SEGELKEN.

ALBANY, N. Y., June 1.—Honey market quiet. No stock, no receipts, and no demand now. It is between seasons. We took for good prices the coming season, for in this vicinity the foul brood has nearly exterminated the bee-keepers.

H. R. WRIGHT.

BUFFALO, May 29.—Very light trade in all grades of honey. Strictly fancy sells fairly, at 14@15c; dark dull at any price, and 8@9c about the range. Beeswax, fancy, 27@28c; dark, 23@25c. BATTERSON & Co.

KANSAS CITY, May 4.—Practically no shipments arriving, and very little selling. We are getting $3.50 to $3.65 per case of 24 sections No. 1 white; amber, $3.00 to $3.25. Beeswax scarce at 25c. W. R. CROMWELL PRODUCE Co.,

Successors to C. C. Clemons & Co.

SAN FRANCISCO, June 5.—White comb, 11½@12½ cents; amber, 9@10c; dark, 6@8 cents. Extracted, white, 5@6c; light amber, 4@4½c; amber, 3½@4c. Beeswax, 26@28c.

Dealers are very bearish in their ideas, but are not securing much honey at the prices they name. In a small way to special trade an advance on quotations is being realized.

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I ARISE

To say to the readers of the BEE JOURNAL that

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., JUNE 27, 1901.

FORTY-FIRST YEAR No. 26.

WEEKLY

Dr. C. C. Miller

June 10, 1831.

June 10, 1901.

AND so to-day I'm seven times ten,
And hence 'tis said I live on "borrowed time."
Well, what do I have that was not lent
By Him who made me what I am?
My life, and all that goes to make it up—
From deepest joy to sorrow's cup—
These all are borrowed from His gracious store.
But some day He will *give* me better things—
Yes, the best He has, and they shall all be mine
Throughout unending ages.
You say I'm on the "shady" side of life.
Not so, my friends; the shadows are behind,
Along with all earth's troubles.
I see ahead the Sun of Righteousness,
Whose beams already light my path,
And render it more pleasant to my tread
Than aught that this world has to give.
But even if the shadows do at times
Fall o'er my pathway, dark and deep,
I'll pause a moment, wipe my brow,
And then press on, not *to* the light,
But in it and toward it.
The best of life is still ahead,
And, I am sure, it always will be so;
For morrow's sun has something for the child of God
Far better than the things to-day has brought;
So don't condole with me on ripening age,
For that is but another name for labor done,
And an advance toward that gladsome day
When we shall gather up our jewels,
And we, in turn, as jewels, shall be gathered up.

W. P. ROOT.

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GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

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OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

DR. C. C. MILLER, of course, is different from some ladies in the usual number of particulars, and also has another distinguishing dissimilarity. *He* still has birthdays. He had one the 10th of this month. He is now 70 years old—or, we should say, 70 years young, for he's on the sunny side of 70 now. At least he would tell you that if you were to ask him on which side he is.

Mr. W. P. Root, known as "Stenog" in Gleanings in Bee-Culture, has sent us the poetic statement on the first page of this number. He has expressed for Dr. Miller quite clearly just what the Doctor could say, though perhaps in a different manner.

Dr. Miller is the most prolific writer on the subject of bee-keeping to-day. He has been in the bee-business over 40 years. And he doesn't claim to know it all yet. To many a question relating to bees and bee-keeping he is compelled to offer the laconic reply, "I don't know." And yet his fund of actual information, gained from his years of practical experience in the apiary, is something remarkable.

Further, we were going to say that Dr. Miller is the best loved bee-keeper in America, but we won't say it, for the Doctor wouldn't thank us for it. He is the quintessence of modesty, and so we must not say too much at this time. And yet to say the good and well-deserved thing now is much better than to wait and place them in bouquets upon the casket that some day will contain all that is mortal of him.

We can truly speak not only from our own heart, but for many others, who appreciate Dr. Miller, his life and work, and pray that he may be spared to us all yet many years ere he is called "up higher."

MR. R. WILKIN, one of the oldest and most prominent bee-keepers of California, died at Newhall, Calif., May 30, 1901. He was father-in-law of J. F. McIntyre, another leading bee-keeper of the same State. We hope soon to be able to present a more extended sketch of Mr. Wilkin in these columns.

MR. JOHN W. BAUCKMAN'S East Side apiary is shown on page 410 this week. It is located in Fairfax Co., Va., and all but two of the hives used are the double-walled. The apiary faces east, and is beautifully situated. The little girl at the first hive is his youngest daughter, and the lady to the left is Miss Castell, his helper in the apiary. Mr. Bauckman says she can find a queen as quickly as the most experienced apiarist, and is a good bee-keeper, besides being a fine seamstress. The two lads in the background, carrying the colony of bees, are his two sons who are running the farm. The lady to the right is another daughter, and the man with the smoker is Mr. B. himself.

He thinks his hives are the finest in the United States, as they are a perfect piece of cabinet workmanship, being thoroughly made, then primed with white lead, the nails being all sunk, then puttied, then sandpapered, and then painted with the white lead. They are on stands 11 inches from the ground. He would not have his hives on the ground, nor would he have them on tight stands, but wants them so that the cats and chickens can get under them, and so that there will be free circulation underneath. In this way the hives keep dry, the bees are healthy, and there are no ants or mice to bother.

The day that the picture was taken there was a fierce fire raging just at the left of his place, and his wife and youngest son were badly frightened, and were watching the fire, so that is the reason they do not appear in the picture. Two of his houses were within 30 feet of the fire, but no damage was done to his property.

MR. J. H. HODGKINS, of Winnebago Co., Ill., writes us that he thinks he is about the oldest subscriber to the American Bee Journal, as he has taken it continually ever since its first editor, Samuel Wagner, began to publish it in 1861. He has never missed receiving one number in all those years, and he has preserved nearly every copy.

We suppose there are not very many of our subscribers who have such a record as Mr. Hodgkins can show.

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., JUNE 27, 1901. No. 26.

Editorial.

What Is a Tested Queen?—The answer will probably be that it is a queen whose worker progeny have three yellow bands. At any rate, that was what the term "tested queen" originally was understood to mean, and with that meaning it served a good purpose. It was understood that when the three bands were shown on the workers the queen was of pure descent, and had been fecundated by an Italian drone, and so when one purchased a tested queen he was sure of pure Italian stock. The value was not in the three bands *per se*, although beauty has value to some extent, but the bands were the O. K. mark, showing that the colony was of pure Italian blood, and, therefore, possessing certain valuable traits belonging to Italian blood. A tested queen, then, was a pure Italian queen.

Taking the same test to-day—the three yellow bands—is a tested queen an Italian? Perhaps. There are queens to-day whose worker progeny have five yellow bands. We can also find workers with four yellow bands; some with two, and some with one. It is not difficult to find colonies whose workers have for the most part three bands, some of them, however, having only two bands. Possibly a colony might be found whose workers showed uniformly two bands. In either case, with any considerable number of workers having only two bands, the colony would be condemned as possessing black blood in some degree. Now, suppose a queen from one of these colonies whose workers showed the presence of some black blood, but in no case showed less than two bands, should mate with a drone of five-banded stock, would not the worker progeny of such a queen be likely to show three or more bands? Clearly, she is not of pure Italian blood, but according to the rule she is a tested queen.

The test of three yellow bands has no longer the same value it originally had, and there is a possibility that there may be a shaking up of the whole matter.

Long Tongues Not Always Best.—Gleanings in Bee-Culture reports that A. T. McKibben found upon measuring the tongues of his bees that some of his scrub colonies had just as long a tongue-reach as his best honey-gatherers. This is the first case reported in which it appeared that bees with long tongues did not excel.

Questions for Discussion at the Buffalo convention may be sent in at any time from now till Sept. 10, to Secretary A. B. Mason, Station B, Toledo, Ohio. For more than one reason it will be better to mail your questions in advance than to wait until you are present in person at the great meeting of the National Bee-Keepers' Association. You may forget a question if you wait, and if several offer the same question the duplicates can be thrown out in advance. This feature of the convention is a very commendable one. The live discussions in a convention are what give it its greatest value.

Repression of Drones.—Perhaps no one has kept hammering away on this subject more than G. M. Doolittle, and no one has gotten it down to more practical shape. He discusses the matter in the American Bee-Keeper, and although there may be little he has not already said in this journal, it is worth repeating for the sake of some of the beginners, and more especially for some who are not beginners, but have not given the matter sufficient heed. He says:

I have yet to see the hive containing a populous colony, one strong enough to send out a prime swarm during June and July, that had not a few cells of drone-comb in it; and I do not believe that these few cells can be kept out, for worker-comb will be cut down and drone built in its place if a few cells can not be gotten otherwise. From my experience in the past, I would say that it is not practical to try to keep all drone-comb out of any hive, but rather have just one frame in each and every hive, having from 10 to 20 square inches of drone-comb in it, and have such comb in a certain place in each hive, so that the apiarist may know just where it is; then every 20 days open the hives from which it is desired that no drones shall fly, and decapitate them, thus making a sure thing of the matter, and fully satisfying the bees. In this way you will not have a few drone-cells scattered all through the hive, nor will you have to use a drone-trap at the entrance of such hives to catch undesirable drones, the same making quite a cost and much work for the bee-keeper, in putting them on and emptying the same; besides a general bother and disgust to the bees, when first put on, and at times of the flight of drones and young bees.

If this comb with drone-cells is placed near the outside of the hive, and the drone-comb is near the top-bar of the frame, you will not have to decapitate the drones more than two or three times during the season, for the queen will be slow in depositing eggs in it; and when honey comes in so the bees begin to prepare for winter stores, they will fill it with honey, thus keeping the queen from depositing any more eggs in it that season.

If, in addition to the above, the top-bar to the frame, directly over this spot of drone-comb, is painted white or red, you will know just where this comb is without taxing your memory with the matter; and this will tell you exactly where such frames are, should they become displaced at any time through your manipulations, by way of spreading of the brood, giving colonies which are short of stores frames of honey, etc.

Is It Profitable to Use Foundation?—S. E. Miller discusses the question in the Progressive Bee-Keeper, and while not questioning its use in sections, he does question the profit of using it in the brood-chamber. He figures that an 8-frame hive filled with medium-brood foundation, freight and all, will cost 55 cents or more, and thinks in many cases the 55 cents is never gotten back. In reply to the claim for straight combs with no drone-cells, he says:

I have in my apiary as nice all-worker combs built on starters as any one can show built on full sheets. I have others that contain partly drone-comb, and some nearly all drone, but these are by no means useless, as I use them in the upper story for extracting from, or, if I wish to, I can cut out the drone-comb and fit in worker-comb, as Mr. Doolittle does, but I must confess that I have never done this as thoroughly as I should have done.

Mr. Miller argues that he can cut out the drone-comb and replace it with worker, and then with charming frankness confesses he has not thoroughly done this. Ay, there's the rub! Bee-keepers can cut it out, but do they? Those who have had much practice in the job know that it is some time and trouble, and it is easier and surer to prevent than to cure. The probability is that if Mr. Miller would count what he has done, he would admit that his 55 cents came back with interest.

Suppose, however, that we take the case of a man who promptly cuts out all drone-comb, or removes it to the extracting-chamber. Before that drone-comb is cut out it must be built, and that building costs wax and labor for the bees, to say nothing about the time of the bee-keeper in repairing. But the waste of the drone-comb is not all. As fast as it is built it will be more or less filled with drone-brood—generally more—and that brood is a waste. Unless the man is *very* careful and prompt, a good deal of the brood will arrive at the sealing stage before it is cut out, and that will be much the same as throwing away a comb of honey of the same size.

The argument that drone-comb can be put in the extracting-chamber may have some weight where there is an extracting-chamber in the case, but can not apply in comb-honey production.

After all this is said in favor of foundation in the brood-nest, it should be added that there are good authorities who think it economy to use for a swarm nothing but starters for the first half of the frames. If hived on these there will be very little, possibly no drone-comb built, the building of drone-comb commencing after the first half of the hive is filled. To prevent the building of drone-comb in this second half, full sheets of foundation are given *after* the first half are filled.

Convention Proceedings.

(Continued from page 389.)

Report of the Minnesota Bee-Keepers' Convention.

BY DR. L. D. LEONARD.

THIRD DAY—FORENOON SESSION.

The first thing on the program was a paper by George A. Forgerson, on

MIGRATORY BEE-KEEPING.

Migratory bee-keeping with me was a child of necessity. Living as I do about two miles from any timber, and that timber mostly oak, my only honey-flow was from white clover, and that was by no means certain.

So reading one day about migratory bee-keeping set me to thinking and figuring. My figures ran about as follows: 10 colonies 20 days on white clover—50 pounds per colony; then load them on the wagon and move them six miles to the basswood flow, there to remain 25 or 30 days—50 pounds per colony more; then load up again, and in the silent hours of the night drive 20 miles east to the buckwheat fields, there to remain from 35 to 40 days—an easy 100 pounds more. Result, 200 pounds per colony; 100 colonies, 20,000 pounds, to be sold at 10 cents per pound. The figures ran away with me, some of them got lost, and I have not yet found them. Like hatching chickens by steam, it figures up nicely on paper.

But, alas! after three years of migratory bee-keeping I awoke to find that my dream of wealth had not been realized. The move to the basswood never paid for the trouble; the move to the buckwheat fields was better, as, for instance, the first year from 10 colonies I extracted 1385 pounds of honey in 35 days, leaving sufficient stores for winter. Although I did not do as well the next two years, it led me to establish an out apiary at Hastings, where I have had paying crops for the past three years. GEORGE A. FORGERSON.

This paper was followed by one written by Mr. Wm. Russell, as follows, on

PREMIUMS AT OUR STATE FAIR.

It is generally understood that the principal objects aimed at by the Minnesota State Agricultural Society are largely educational in their character—the bringing together of all that is best and most fully developed in each particular line of agriculture in this and adjoining States. Those who have attended the State Fair for a number of years can not fail to be impressed with the improvements that are apparent in every department, and if they are at all observant they will carry away with them some ideas that will be of use in the particular line in which they are engaged.

It is from the standpoint of a bee-keeper, however, that I would like to say a few words to those assembled here. I am looking back to my first visit to the Fair, and also to my first exhibit, and comparing them with the Fair of 1900. I can see a vast gain for the better. It is true that some of the old familiar faces are not to be seen any more, having laid down the burdens and pleasures of bee-keeping, to be taken up by younger, if less experienced, hands. Not being a farmer, I suppose almost any one can grow good potatoes, cabbage, onions, and all that sort of things, if he has good land to begin with, but I need hardly tell this audience that the inability to produce a really first-class article of comb honey is something of which no one need be ashamed, for it requires more skill than the average bee-keeper is possessed of, judging by the specimens that one sees offered in the honey market. I think quite a number of those present will bear me out in saying that there is a material improvement in this line on honey seen at the Fair, and it is to be hoped that, as in the past so in the future, bee-keepers will vie with each other to produce only a first-class article of both comb and extracted honey, and that their best efforts will always be directed to making a more creditable exhibit at the next Fair than at the previous one.

One of the most important features of these exhibits is the opportunity offered us of measuring ourselves with our fellow exhibitors, and thus enabling us to decide pretty accurately just what ground we occupy as honey-producers and successful exhibitors.

Another feature of the Fair, and one not to be overlooked, is the premium list. I find by referring to the premium list for 1900 that the sum of $281 divided into 79 premiums, comprises the list which is composed of 23 lots, beginning with the "most attractive and finest display of comb honey," and ending with the "grand sweepstakes," which means the most attractive exhibition in this department, all things considered.

In order to understand this matter properly it is necessary to compare the Minnesota list with one or two others, whose shows, by the way, do not come up to that of Minnesota by any means, for instance:

	Minnesota.	*Illinois.*	*Wisconsin.*
Finest display of Comb Honey	$12-8-5-3=28	$20-15-5=40	$8-4=12
Finest display of Extr'd "	12-8-5-3=28	20-15-10=45	6-3=9
Granulated Honey	5-3-1=9	20-15-10=45	
Beeswax	5-3-2-1=11	12-8-4=24	2-1=3
Honey-Vinegar	3-2-1=6	4-3-1=8	
Extracting-Frames	5-3-1=9	5-3-2=10	
Nucleus of Yellow Bees	3-2-1=6	4-3-2=9	8-4=12
Nucleus of Dark Bees	3-2-1=6	4-3-2=9	
Carniolan Bees		4-3-2=9	8-4=12
Total for bees, - - -	12	27	24

It will be seen from the foregoing that in some particulars our premiums are considerably behind those of Illinois, while they compare favorably with those of Wisconsin. For instance, Minnesota pays a total of $12, divided into six premiums, for bees, while Illinois pays a total of $27, and Wisconsin a total of $24, divided into four premiums. It is to this part of the premium list that I would like to call special attention. It is a well-known fact that a person can always get just about what he is willing to pay for, and this holds as good in exhibiting bees as in other walks of life. I will venture the assertion that there is not a bee-keeper present that would care to take a choice queen with a nucleus of her bees, and shut them up in an observatory hive for a week in an overheated room like that at the State Fair, for a premium averaging from $3 to nothing. It simply will not pay, and that accounts for the poor showing made at the Fair of 1900, and I consider the remark of the judges that it was the poorest lot of bees they had ever seen, was perfectly justifiable. Were the same policy pursued with other kinds of stock the result would undoubtedly be the same in a very short time.

I hope that anything said in this paper will not be regarded as a complaint against the premium list or any one connected with the management of the Fair, for it is not so intended. In the main, the premiums are liberal, that is, while only a few bee-keepers make exhibits, but suppose 50 should decide to make exhibits, then there would not be enough to pay the expenses of half of them. Should we ever be blessed again with a good honey-crop and a pushing assistant superintendent, it is safe to say that 50 entries would be secured. While our present assistant superintendent holds office I can assure you that there will be but very few bee-keepers in the State that will not have an invitation to attend the State Fair.

The Fair has been quite a success, its finances are steadily increasing, and it seems to me that the time has come for this Association to take some steps to secure more money for the premium list. It is not my intention to say just what should or should not be done in that line. My main object in writing this paper is to outline a few of the more important features of the premium list where they might be amended, in order to start discussion: for I consider that unless the reading of a paper does that it fails entirely in its purpose, for "In a multitude of counselors there is safety." WM. RUSSELL.

Following this paper was one by Dr. E. K. Jaques, on "Bee-Keeping for Pleasure."

The election of officers for the ensuing year resulted as follows:

President, Wm. Russell; first vice-president, G. A. Forgerson; second vice-president, G. H. Pond; third vice-president, Dr. Mary McCoy; secretary, Dr. L. D. Leonard, Syndicate Block, Minneapolis; and treasurer, L. E. Day. Executive committee, H. G. Acklin, Wm. VanVliet, E. K. Jaques.

L. D. LEONARD, *Sec.*

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Contributed Articles.

Thick vs. Thin Brood-Frame Top-Bars.

BY S. T. PETTIT.

I WOULD like to reply to Dr. Miller and Editor Root, who seem to be not a little excited over my article on top-bars (see Gleanings in Bee-Culture, pages 227 and 380.) In the first note the editor says, "We first tried top-bars that were wide and only ¼-inch thick. We had trouble from such bars sagging, and the building of burr and brace combs." In reply I wish to say, had these ¼-inch thick and 9-8 wide top-bars been kept straight by some means, they would have remained as clean as the cleanest the editor ever looked upon, I haven't the shade of a doubt about it.

I can not understand how it possibly can be that the editor's experience shows him that brace-combs are more plentiful with the use of top-bars ⅝-inch thick than with ⅞-inch thick. Can it be that the length of the Langstroth top-bar allows it to sag when only ⅝-inch thick? With all due respect to the editor, I firmly believe he is mistaken in that. My experience with ⅝-inch top-bars covers a period of 15 or 16 years, and it is altogether different from his. I have made many tests with the different kinds, so it is not theory but long experience from which I speak.

On page 380, Dr. Miller says, "His strong point is that, by having ¼-inch more depth, the space of 1600 to 2000 cells is lost." Yes, that is my strong point, which I will take further notice of later.

No, I did not make the mistake of reckoning that the same number of bees were occupied brooding those sticks as would be occupied in brooding ¼-inch depth of comb. I neither thought it, nor said it, but this is what I did say, "The saving of that space in each hive is a matter worthy our best consideration." I think most bee-keepers will agree that 1600 to 2000 cells in a hive are of more value than useless lumber, adding weight and unnecessary expense. I hope after due consideration the Doctor will agree with this also.

Then the Doctor proceeds to use about half a column, and proves nothing, except that he "don't know" what he is talking about—it's all wasted energy. Further on he says, "So if the prevention of burr-combs by deep top-bars be all a delusion (which I do not believe)"—well, I suppose I can show the reason why he does not believe it. He did not make personal, practical experiments for himself and for the benefit of the public for whom he writes; but—well, perhaps I can do no better than to give the words of Editor Root, as follows:

"Dr. Miller was greatly struck with the idea, and after some extended correspondence with the Doctor we decided that we would launch forth, for the ensuing year, the new top-bar."

Then later he said that he and Dr. Miller had evolved the new top-bar, by revolving around each other by the coat-tail—a clear case of *conviction and prejudice* not founded upon personal, practical experience, hence the Doctor's complaisant "which I do not believe."

I quote from a letter sent me from the U. S. A., dated April 4, 1901: "I have read with much interest your article in Gleanings for March 15, and want to say that I endorse all you say in regard to *wide* and *thin* top-bars; and bottom-bars ¾-inch wide. For a number of years I have been using a top-bar ¼-inch thick, and 1⅛-inch wide, and not a burr-comb on a single frame in 8 years' use." I may add that a few days ago Mr. Cruikshank, who takes Gleanings, and lives near me, called upon me, and in alluding to this discussion said: "I use ⅝-inch thick top-bars, and have no bother with burr or brace combs."

But Doctor Miller says, "I still want the ⅞ top-bars for the sake of having the sections so far from the brood-combs that the bees will not find it convenient to carry up a lot of black wax to spoil the snow-white sections." This statement reveals the fact that the Doctor has not yet learned all the valuable uses to which the queen-bar or perforated metal queen-excluder may be put. My practice is to get the sections just as close to the brood as I can, preserving all the necessary bee-spaces. To this end I want thin top-bars. Then, to prevent the bees from moving up dark wax, and to bar the drones with their filthy habits, and the queen from the sections, and to restrain pollen, I use a queen-bar, or, if you please, an all-metal perforated-zinc queen-excluder, which has a ¼-inch thick rim and two cross-pieces. This arrangement gives the same distance between the top-bars and sections as he wants, with all the advantages enumerated. But I would bring the sections closer down if I could and not dispense with the queen-bar.

On page 380, Editor Root says, "It seems to me that Mr. Pettit assumes, or indirectly assumes, that those 1600 to 2000 cells are lost because of the brood that might have been reared in them." Exactly so, and that is what hurts. Continuing, he says, "but it is very seldom that brood is reared any closer than within an inch of the top-bar, with ordinary Langstroth frames." If that be so then the management is faulty; yes, very bad. Let me explain by giving my practice:

All colonies, whether weak or strong, are kept warm by a warm cushion over each. Then when the early flow sets in, a super filled with comb is given to all the strong colonies, with that warm cushion on top, and a queen-bar to keep the queen down. Then the surplus honey will go into the super, and the brood and pollen will generally fill every cell to the top-bar, and of course the thinner the top-bar the less the burr-combs and the more the brood. While the weather is cool a few cells along the top-bar, especially when the bees are not in the best condition, will contain unsealed honey and pollen; but as the heat increases brood will come to the top-bars. About 25 or 26 years ago I commenced to use a cushion on top of my hives, and when the comb or extracting super goes on, the cushion goes up. It stays right on, summer and winter.

Mr. Root is just now finding out the benefits of a warm cushion, *and so will it be with the thin top-bar; but I hope it will not take a quarter of a century.* Ontario, Canada.

Cross Bees at Swarming-Time, Etc.

BY WM. M. WHITNEY.

SOME one asks why bees are sometimes cross when swarming. Tell him to examine the hive they came from, and if he finds little or no honey, the question is easily answered. Who wouldn't be cross, crowded out of home with the whole family in a starving condition? Or, possibly the swarm has been clustered a long time. Pull one of the crossest ones in two, and see how little honey it has in the honey-sac. If they have plenty of honey, they are gentle as kittens—wouldn't sting if they could, and couldn't if they would.

INTRODUCING QUEENS.

The communication on page 311, entitled, "Introducing a Queen-Bee," etc., is really amusing. The gist of the whole article seems to be *a posteriori* attempt to show that the honey-bee is actuated by pure, unadulterated selfishness. Now, it occurs to me, that, taking the effects indicated in the communication as causes, and reasoning *a priori*, it would not be a difficult matter to show that the honey-bee is prompted by the highest type of love and patriotism. A colony of bees is very much, in many respects, like a community of individuals, in which individual rights and privileges must be held secondary and subject to the well-being of the body collectively.

Among enlightened and Christian people, places of comfort are provided for the unfortunate and infirm; but, the time was when such persons—whether their condition was the result of heredity, accident, or old age—were disposed of in the most convenient manner possible, as thought for the good of the majority. In fact, we occasionally hear the thought expressed that such might still be a good practice.

The community of bees, either by instinct—if any one can tell what that means—or by some other power, seem to know when any member among them has ceased to be of use to the body as a whole, and take the only possible means to perpetuate the existence of the colony. Why, how long do you suppose a colony of bees would live, were it to provide an asylum—to illustrate the idea—in the several corners of the hive, with nurses to care for the worse than worthless drones, the *dear* old mother-queens, and the ever *faithful*, but weak and worn-out workers? Does it show a want of love, to do the only possible thing necessary to preserve an existence? How persistently the little heroines defend their hearthstone against all intruders, even to the sacrifice of life itself. How carefully they

nurse and care for the young, from the egg to the emerging of the young bee, which is to perpetuate the existence of the family in the same manner in which they are doing it. Do not these acts imply the highest type of love and patriotism?

But this is sufficient to serve the purpose intended; hence, I will not pursue the subject further than to add, that probably neither position is wholly tenable, but that the whole matter is governed by a principle, or law in Nature, or evolution, if you please, which simply, in a sense, means the "survival of the fittest."

One can scarcely refrain from admiration of the gracefulness of that stately old queen, as she makes her debut into the residence of total strangers, and is so graciously accepted, and immediately crowned sovereign of the realm. Yet, it is a little surprising to think it necessary to use a *little smoke* just at the right time. It tends to divert the attention; to pervert the sense of smell; to set the whole colony to gorging themselves with honey, of course, and, possibly, may have something to do in helping them to form an opinion of the graciousness of her stateliness. However that may be, try introducing this same old stately queen into a queenless colony that has queen-cells forming, however imperfect they may be, and note how little impression her stately figure and graceful movements make upon the occupants of the hive. Try the same experiment with a colony having the worst of all pests—laying-workers—and note what will become of that magnificent old queen in about a minute and a half.

My! But enough. Allow me to say, in passing, to beginners: Don't try any such experiments with your *$200 long-tongued red clover queens*. If you do, you will have your disappointment and misfortune to remember as long as you live. Yes, this reminds me, that there seems to have been raised, simultaneously, all over this country, during the last year, an immense number of *l-o-n-g*-tongued queens. When I think of it, it seems surprising—but, then, I don't know as it is either. My bees have always gathered nectar from red clover. Now let nobody build hopes high that he can get a $200 queen from me for 50 cents. I have none for sale.

My belief is, that such honey is of very little value except possibly for brood-rearing. When a boy, as I got it from the bumble-bees nest, while it was sweet, it was very watery, and not specially of fine flavor. I believe in letting the bumble-bee monopolize the red clover honey business.

Kankakee Co., Ill.

Circulation and Respiration in Insects.

BY PROF. A. J. COOK.

RESPIRATION and circulation, or the securing of oxygen and elimination of waste, and the conveying of elements from one part of the body to another, are exceedingly important functions in all the highest among animals—so important that we denominate the cessation of these functions as death. A chicken in Michigan lived for weeks with its head cut off. That part of the brain—the medulla oblongata—which is the centre of breathing, remained intact, and so the chicken continued to breathe, and the heart ceased not to beat, and so the chicken lived. Of course, it could do no thinking, nor could it walk; but so long as breathing and the circulation of the blood continued, we say the chicken lived.

In insects, and so in bees, respiration looses none of its importance; but because of its peculiar character, the circulation of the blood becomes much less complicated. Indeed, we may say that the respiratory system is inversely proportional in its complication, to the circulatory apparatus.

In us, as with nearly all vertebrate animals, breathing is specialized, and restricted to narrow limits. The lungs are the organs, and in mammals the thorax is their seat of action. These limitations make a very complete circulatory apparatus very necessary, and so we have the great force-pump—the heart—the conductors leading from it, the strong arteries; the minute capillaries which unite arteries to veins, and which serve to bring the blood close alongside the tissues; and the veins, the great conduits, that return the blood again to the heart. The oxygen, which is really the most important food, if we may so designate it, is only received in any considerable quantities by the lungs; (the skin respires in a small way, and so we get a modicum of oxygen through skin respiration) the blood then must have two circuits—the one to the lungs to get this vitalizing oxygen, the other to the body to give this same oxygen to the tissues. Equally important is circulation, in bearing the waste from the tissues, and equally important are the lungs in separating this waste—the ashes of work, if we may so speak—from the blood. In all these higher animals the air comes to the lungs in a single tube—trachea—and enters this either from mouth or nose through a single aperture—the glottis.

When we come to insects, we find a very different arrangement. The bee and all insects must have the oxygen, and if very active, as are bees and all other insects of their order, they must have a large amount of this vitalizing element, the most important food-product. The insect's breathing-organs are not localized; they are everywhere in the body. Nor does the air enter at the opening, but rather from several breathing-mouths, situated in pairs along the sides of the body. These spiracles, as the breathing-mouths are termed, are doubly guarded, first by hairs, and also by membranous valves, so no dust is likely to gain access to the insect lungs, or, in other words, to the intricate breathing-tubes. These breathing-tubes, or tracheæ, as they are called, branch and rebranch, so everywhere in the body we find them. Thus the life-giving oxygen goes everywhere in the body, and there is no need of a complex system to circulate it.

These tracheæ are curious in their make-up. They are made of spiral threads, lined with an epithelial or cellular membrane, as are our own bronchial-tubes. Thus the ultimate structure of the insect lungs is not essentially different from that in higher animals. In both cases we have an intricate and extensive ramification of tubules, lined with a cellular membrane. The spiral thread which forms the tubules in the insect respiratory system, is in appearance and construction, as if we should wind a fine wire closely about a lead-pencil, and then remove the pencil without disturbing the wire. We note, then, that the insect's requirements are met in that air, or rather oxygen, is carried everywhere to the tissues.

The circulatory apparatus, then, need not be very complex or energetic. It has not to carry the all-important oxygen. Thus we understand why the insect blood is not red. Blood is red because of a coloring element called hæmoglobin. This is large in amount, which shows its importance. It is emphasized as we know its function, and it is to carry oxygen. In insects there is no need to carry oxygen, as the air with its oxygen goes everywhere.

We understand, then, why insects have no red blood. Were it there, it would be like Othello in the play—its occupation would be gone. The only organ of circulation in insects is in the heart. This is dorsal, and lies close along the back. The blood in this always passes from behind forward. Valvular openings along the side permit the blood to enter. The heart contracts and sends this blood-stream forward. It is emptied near the head end of the central opening—the cœlome, as it is called. There are no specialized vessels to carry it back. It crowds along between the visceral organs, and rushes into the tubular heart, to be driven again towards the head. This heart action is to keep the blood stirring, so that as active tissues take out the nourishment, no portion may be depleted of nutritive elements. All is constantly being mixed. And so all the blood is kept as rich as any of it. Thus we see how an intricate or elaborate air-system makes unnecessary a complex circulatory apparatus. The machinery in all organic nature is always simple, unless there is call for something intricate.

Los Angeles Co., Calif.

Scientific Breeding as Applied to Bees.

BY ARTHUR C. MILLER.

IN an editorial on page 355, reference was made to an article of mine entitled "Scientific Breeding," and just criticism was made of my expression, "Do not confuse in-breeding with in-and-in-breeding." When writing that article I had in mind *in-and-in-breeding as that term is commonly understood*, and I ought so to have expressed it. It is commonly understood to mean the promiscuous breeding together of animals closely related, and as the results of this in ignorant or careless hands is generally disastrous, it is supposed to prove that the breeding together of such relations is disastrous *per se*. On the contrary, it is the chief reliance of the skilled breeder for intensifying desirable tendencies.

The article was not intended to be an essay on thorough breeding, but was intended to do exactly what it has done,

i. e., call attention to the then present status of the subject, and arouse interest, comment and study. The breeding of stock in such a way as to develop and establish desirable traits, or, in a word, thorough breeding, is a subject on which many volumes have been written, and to endeavor to give any satisfactory exposition of it in the space available for an article in our bee-papers is impossible. The best we can do is to call attention to the subject, refer those interested to the standard works on it, later discuss salient points, and study it as applied to bees. We shall certainly meet some variations of the laws applied to higher animals, for with bees the drone does not represent two lines of blood, as does the queen, and other factors are also different and will require much study and research.

I believe the breeding of queens is passing into the hands of a comparatively few persons, and these well educated and skilled in the art. It is for the best good of all concerned that it should be so, and Mr. Martin's plan is in this direction. For a time it may cause some personal distress and necessity for readjustment by those who have to drop the business, but bee-keeping will be benefitted thereby. It is only the working out of the natural laws of specialization and the survival of the fittest. Those who kick against it will only show their ignorance of great fundamental truths.

The exact details under which the system will be conducted are properly a subject for debate, and the more full the discussion the more readily will the change be made. The average honey-producer is certainly not in a position to study into the traits of individual colonies, nor when he observes desirable characteristics has he the time or skill to develop them. But if he can turn that queen over to the queen-rearer with a statement of all the observed traits, and of the pedigree so far as known, then is she placed where the man with the time and training can observe, and act on his observations. Suppose each of twenty skilled producers were every season turning over to the queen-specialist his best queen, would he not then be in a position where, even if not able to control the drones, he could produce queens far beyond anything we now have? The skilled queen-breeder of to-day need not fear this plan, for if he is worthy to survive he will quickly find his place as a queen-specialist. Rambler's plan is entitled to our serious consideration.

Providence Co., R. I.

No. 7.—Practical Lessons for Beginners in Bee-Culture.

BY J. D. GEHRING.

(Continued from page 376.)

"NOW, Mr. Bond," I continued, "if you will please come a little closer I will show you how I take a super off the brood-chamber."

Mr. Bond took two or three rather timid steps away from the apple-tree, against which he had been leaning while I was explaining things, and then halted when he saw me using my old chisel at one end of the super to loosen it from the frames.

"O, come along!" I called, when a side glance showed me his action. "These bees are as tame as kittens now. They'll make no sign of a fight while they are full of honey, you know. Don't forget that, Mr. Bond. And, let me remind you, also, don't forget that you are wearing the best kind of a bee-veil, and are at liberty to keep your hands in your pockets, if you prefer to do so."

"As I was saying this I had reached the last frame in my prying operation, and, as that frame stuck to the super worse than any of the others, it came loose with a snap and a bang, the usual result—with which all practical bee-men are familiar—following so quickly that I hastily reached for my smoker, standing near by. A few puffs of smoke, only, were required to drive the out-rushing bees back. My quick movement in reaching for the smoker must have looked to Mr. Bond like the effect of sudden fright, for he uttered a hearty guffaw, and then said, banteringly:

"Say, Mr. Gehring, how long will bees stay tame after you've made them gorge themselves on honey? Those in that hive act as if they hadn't had a lick of honey to eat to-day. Do you know that it is now 4 o'clock? and that it wasn't quite 2 o'clock when you left them to 'tend to that swarm?"

Mr. Bond was right. But I wasn't quite willing to acknowledge that I had made a mistake by forgetting the point he made. I, therefore, attempted no direct reply to his bantering questions, but said:

"I'll show you in a few minutes, Mr. Bond, that these bees will behave all right when they have become satisfied that no harm is being done to them. If you'll come here and take this smoker while I take the super off, it will be a good lesson for you for future use."

Mr. Bond did as requested, and I continued: "Now, when I lift the super the bees may make another rush. If they do, just blow a few gentle puffs of smoke over the top of the frames—that will send them back. But if they make no rush, nor act 'fightish,' don't use the smoker on them."

With a steady, even motion I raised the super clear of the frames, and carefully deposited it on a near-by hive, keeping a watchful eye, meanwhile, on the hive, and on Mr. Bond in particular; for I could not be certain what either the bees or the man with the smoker might, or might not, do. A few of the bees, either from the hive or from the bottom of the super, of course took wing, but made no vicious demonstration. Mr. Bond, however, did not know how to interpret the actions of bees, hence he did not waste a moment's time in watching to see what these flying bees would do. Before I had time to turn, after setting the super down, he was pumping the smoker with frantic energy, and sending dense volumes of smoke down between the frames of the open hive.

"Quit that, Mr. Bond!" I cried—not taking time to be polite. "Stop that smoke! Don't you see the bees are not doing any harm? Never use the smoker unless it is absolutely necessary! Remember that, now and always, Mr. Bond. It has a demoralizing effect on them, and makes them harder to handle, because smoke-treatment like that frightens and irritates them. You can see that for yourself," I concluded, pointing, as I approached the hive, to the bee-entrance where the poor, confused little things were pouring forth, in a frantic rush to escape the smoke.

"I beg pardon if I didn't do the right thing at the right time," meekly replied Mr. Bond, as he handed the instrument of possible torture to me. "But, you see, these practical lessons you're giving me are hard on the nerves—my nerves, I mean."

"That surprises me, Mr. Bond," I replied. "I always had a sort of an idea that 'fair-fat-and-forty' people, like yourself, carried their nerves out of sight and out of reach of attack from any source. But let that pass, Mr. Bond. The lesson is the important thing to consider, hence I am not at all sorry that you have had a part in this 'little fracas'—as, I believe, you would call it—because you'll be less liable to forget it."

"Do you mean the fracas, or the lesson?" queried Mr. Bond, mischievously. "I mean the lesson suggested by the fracas, Mr. Bond," I replied. "The main point of interest in the lesson is, the *use* and *abuse* of smoke in the apiary. Owing to the unintentional abuse—or misuse—of smoke in this particular instance two undesirable effects, to put it mildly, were the direct and indirect result, thus:

"Your furious bombardment with a bee-smoker disturbed and excited a whole colony of otherwise docile bees. That was the direct effect. The indirect effect of it was, or is, that your lesson will have to be postponed for to-day. It is now too late in the day to keep the hive open longer for the purpose of demonstrating this part of the lesson. Besides, it would not be wise, or even merciful toward the bees, to trouble them further while they are unduly excited.

"You needn't keep your veil on any longer now, Mr. Bond. There is no danger at all after I get this super back on the hive," I said, as I was replacing the super, and then closed the hive.

"That means, then, that school's out and I'm dismissed. Is that it?"

"Not exactly dismissed, Mr. Bond," I replied; "for I want you to come again as soon as you can, on a bright, warm day. Remember to come as early as seven in the morning, when you do come.

"By the way, Mr. Bond, lest I forget to ask you: Do you take the American Bee Journal? I name that, in particular, because I read it in preference to any of the other bee-papers, and because I think it's the best in most respects; though others, as far as I know them, are good, too. The fact is, bee-papers are somewhat like bee-men—they're all good—some more, and some less."

We were walking toward the honey-house as I talked. On the way Mr. Bond removed the bee-veil and carried it in his hand until we had reached my work-room. I requested him to take a seat, but before doing so he handed me the veil, and then said:

"If you had asked me that question about the Bee Journal the first thing this morning, I would have seen no reason for hesitating to tell the truth about it. But after

the experience I have had to-day, and the lesson I've had in practical bee-keeping, I'm ashamed to confess that I have never taken the American Bee Journal as a regular subscriber. The fact is—and perhaps I ought to be ashamed of that, too—I've never before felt, as I now do, that I needed a bee-paper of any kind. My good old father never took any, and he got along very well with his bees—that is, I always thought so before to-day."

"You have done no worse in that," I replied, "than hundreds of others are doing all the time, without ever feeling a pang of guilt, or showing the least sign of repentance. And most of them are otherwise good and sensible men and women, too, Mr. Bond. The Missouri gentleman I told you about was one of that class of bee-keepers. He sneered at the very idea, when I asked him that same question I've just put to you. But you know what he lost by being wise in his own conceit, if you haven't forgotten what I told you about his bee-business transactions with me. Why, Mr. Bond, that man actually laughed at me when I tried to convince him, one day, that bees have eyes and could see as well as he or I could. To prove that I was wrong he stepped before the bee-entrance of one of his hives and said:

"Now, don't you see how these bees run against me as they go and come? Would they do that if they could see me?" he asked triumphantly.

"Couldn't you convince him that he was wrong? Or didn't you want to?" Mr. Bond asked.

"My friend," I replied, "I didn't even try to do that, because I knew that a man who refused to take a bee-paper, not because he couldn't afford it—that's often a valid excuse—but because bee-papers couldn't teach him anything, was too far gone in conceit to be cured, either by argument or actual demonstration.

"No, Mr. Bond." I concluded, "it never pays to try to get along successfully in the bee-business, on a large or on a very small scale, without a bee-book to begin with, and a bee-paper to continue on."

(To be continued.)

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Exchanging Old Colonies With Nuclei.

I had a mind to form nuclei from a colony that swarmed a week ago. Rather than to destroy queen-cells I thought to form nuclei with them. Then to remove other hives and place these nuclei in their places, but a friend told me if I did, the returning bees would be likely to kill the bees and destroy the queen-cells. Would that likely be the result? On going through it to-day I found one queen, but three or four cells, and they all empty, so I could not have carried out my project had I wished. It appears I got that idea from Gleanings in Bee-Culture, but haven't it to refer to now. IOWA.

ANSWER.—Put a nucleus with a young queen in place of a strong colony, and there is danger that the queen may be killed, but I think it would not be likely that a queen-cell would be disturbed by the returning bees.

Effect of Too Many Stings—May Have to Abandon Bee-Keeping.

I have been keeping bees three seasons, and had many stings. The spring of 1900 I was troubled with burning and itching for about two months. I thought no more about it, but last March I received quite a lot of stings on the head and face, and now I am troubled terribly with itching, burning, and breaking out over the body as well. The doctors here say it is some kind of poison. I am 65 years old. What is my trouble?

I visited relatives in east Virginia three years ago, who have many bees. I had rheumatism badly, and they assured me if I would get bees, and work with them, and receive stings freely, the formic acid would certainly cure me; and to my hope I do not have any rheumatism now. I have frequently thought if Dr. Miller would caution beginners against too much bee-poison, it would have benefited me.

Let me add that I at first rather encouraged stings. Now I am seeking a remedy to eradicate the poison. I am reasonably sure that my blood is heavily charged with bee-sting acid. I think Prof. Cook doesn't claim it to be formic acid. KENTUCKY.

ANSWER.—Your case is a very exceptional one, and it is among the possibilities that you may never be able to work with bees without suffering too much inconvenience. No remedy, however, will be needed for the stings received in the past. It is not supposed that the poison remains in the system, and all you need to do is to avoid stings in the future. It is also possible that in time you may become habituated to the stings so as to be able to continue working with bees. It will certainly be well for the present to take some care not to have too many stings, at least until you find that no serious effects result. If you find no abatement with time, but every sting bringing just as much suffering as ever, then your only course is to give up bee-keeping entirely.

Management for Increase.

As I am trying the Newman plan of increase it hardly suits me, as he says to put the queen-cells on a new stand. I wonder if that is what he meant, or is it a mistake in the print? He says remove the frame on which you find the queen and three other frames of brood, and put into a new hive on the old stand, removing the old hive to a new stand, then put in a queen-cell 24 hours later. Don't you think that would depopulate the old colony so there would be danger of the cell getting chilled? WISCONSIN.

ANSWER.—There might be some danger in the direction you indicate. Do this: Put the queen with half the contents of the hive on a new stand, and a day or two later let the two hives swap places, giving a cell to the queenless part. In that case, as you put the queen on the new stand, enough bees for safety will remain with her, and by the time you make the exchange some of the bees will have marked the new location so as to return from the field to it, and the part without the queen will have learned their queenlessness by the time the exchange is made, so that there will be no danger of their deserting the brood.

Feed for Weak Colonies—Foul-Brood Question.

1. Is there a good substitute for honey with which to feed weak colonies? If so, what?

2. In what way does foul brood manifest itself? There are young bees lying on the outside of some of my hives. They are still white, and do not have their wings formed yet. PENNSYLVANIA.

ANSWERS.—1. Granulated sugar with water, or a syrup therefrom, is probably the best. In the spring, after bees are flying daily, almost any sweet that bees will take can be used.

2. It is hardly the place to give here all about foul brood. Consult your text-book on bees. But you need not fear foul brood because young bees still white are lying outside the hive. If there are only a few, it may be the work of wax-worms. More likely, especially if there are many of them, the trouble is starvation. In that case, you will find some of the skins carried out with the insides sucked out.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once, if you want a copy of this song.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

EARLY QUEEN-REARING IN THE NORTH.

Swarthmore, you're a "clever chiel," but, all the same, queens in the North are not going to be reared for sale six or eight weeks ahead of natural season. The weather (we have all found this a phenomenally backward spring) is a fearful antagonist to buck against. Why, this spring seeds planted in pots in the window, inside the house, refused to come up. I suspect you would have had some fun making your colonies rear many drones in March. I can readily believe that drone-eggs would mostly get through the mails all right—except when subjected to freezing. If I remember aright, those who have tried to destroy drone-eggs and drone-brood, without destroying the combs also, have found it a very difficult thing to do. But we'll give you a good, long credit-mark for your experiments and success. A queen-breeder might think it worth his while to gain a much more moderate time than six weeks. And the amateur breeder might wish drone-eggs from afar to cross stock on hand. Page 307.

THIN BOARDS AND SECTIONS FOR KEEPING HIVE-RECORD.

Mr. Davenport's thin boards, 4x18, make excellent records, no doubt; and "sponging them off" with a *plane*, when the record is no longer needed, is simple and effective. I use for this purpose the broad side of a section—carry one or several in my pocket—and renew the surface on occasion by shaving it with my pocket-knife. Either his way or mine is excellent to preserve things which are eventually to be put down in a book. Quite inconvenient to be running to a book to write as often as a poor memory demands. Say, dear reader, don't you need a wooden pocket-book? There's lots of "money in it." Page 309.

APPLE-BLOSSOM HONEY.

Allen Latham's way (page 310) is all right to get choice tit-bits for home table. Hardly do to amplify it so as to boom the main harvest that way. A section two-thirds from apple-nectar and one-third sugar-honey would be still more exquisite than apple-honey pure and simple. Apple-honey inclines to have a little too much flavor. He's right that it is delicious the day it is brought in; but I would hardly agree that it is the only nectar good at once. He must have forgotten the basswood. Probably no nectar whatever is fit to *keep* if extracted when only one day old.

FEEDING BEES IN A TOPLESS WIRE ENCLOSURE.

If it is really true that all that is needed to feed any colony in the open air is a wire fence around it six feet high (top all open to the sky), we certainly ought to know it. Very unique and remarkable gun for our arsenal. But let's not tell our brothers that it never kicks till we have fired it off several times with our own shoulders against it. You see, Mr. Latham, you said the home bees quickly learned the way out and in; and it strained my believing "machinery" to believe that robbers would not learn the same. But the more I think of it the more I relent; and the bent machinery revolves a little slowly in a jiggle-joggle sort of way. If it does work as stated, at all times, and in other people's hands, the more credit to you. Page 310.

RIDDLE.

A living machine without a heart,
With no tender throb in any part,
Of iron rules a slave, I ween.
It bows at the throne of King Routine;
It's born of the crowd, and dies alone,
And spares no life, not even its own.

I think it probable that W.W. McNeal is right in claiming that the bee is entirely destitute of love for any other living thing. It has lots of love of country to atone for its lack of personal affection. But when he comes to speak of the bee's *reasons* for action he gets woefully beyond his depth, it seems to me—as most of us do. In consciousness and mode of mind action, living creatures differ much one from the other; and all differ, almost immeasurably, from the human creature's way of thinking and feeling and intuition. A squirrel is conscious that a surplus of food can be turned to future good account. Many other animals will wantonly destroy their own food (all but a few mouthfuls immediately in front of their eyes) even with starvation as the very next thing on the books. A swine likes a clean bed, and is conscious of the personal rules required to keep it so. A cow equally likes a clean bed, yet with disgusting unconsciousness defiles it and everything else in the vicinity. A man sees a fellow man with a crushed limb, and is conscious of his pain—to such an extent often as to be obliged to turn away his eyes. A bee sees a fellow bee half crushed, and in all probability has not the slightest idea that there is any pain involved at all. If I am right, it is only in few and rare instances that a few of the most intelligent of creatures have shown any comprehension either of death or of silent suffering. Many creatures seem to be able to comprehend *cries* of pain. Even the apathetic bee is still a little in doubt on that point. Among swine an angry attempt to *silence the cries* takes the place which should belong to intelligent pity. As to the bees blaming the queen for her sudden disappearance when caged, and remembering it against her to punish her when she comes back, I fear that is getting into a pretty high grade of comedy. But say, in this matter of assuming that bees look from a human stand-point, don't you go to looking my writings over to see how many cases of it you can find! Page 311.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

CLAREMONT A MODEL CITY.

We have a very exceptional society here in Claremont. The motto of our college is, "Our Tribute to Christian Civilization." The unwritten law of the college is, "No Tobacco; no lewdness." I rejoice to say that out of eighty graduates which will be our number now in a few days—our first class graduated since I came here in 1894—all but five went forth as active Christians. Two of those five were members of churches, and one of these is now preaching the gospel; two others, though not professing Christianity, were very intimate with me. They possessed the Christ spirit in a marked degree. Of our 200 students, one-half the residents are in voluntary Bible-study classes. We see, then, that our unwritten laws are, and will be, more potent and influential than written laws usually are. Thus it will be easily understood why Claremont streets are so free of tobacco. Rarely is the smoker seen, and almost never is a young man, and never a boy, seen with the insignia of slavery and short life—the cigarette—reaching from his lips.

I need not say that Claremont is a good, clean place in which to bring up boys. The great army of smokers is not being recruited in Claremont. Every head of every home circle wishes his boys—how good that I do not need to say girls; (God bless the girls, and help them)—that they stop not with avoidance of the dirty habit, but work with all their great power to keep the boys from its filthy clutch—to let tobacco entirely alone. Even the man enslaved to the habit hopes his boy may be kept from it. I never heard but one smoker say that he wished his boys to follow in his steps. I am glad indeed that he was so exceptional. But there are few Claremonts. And the great question is: How can we keep the young from this befouling habit, that strikes even at the very health and life of our splendid American boys? And how from the other dangers that lurk to entrap and tarnish our dear ones?

THE BOY AND THE GARDEN.

It has ever been true—it is true to-day—that Satan is on the eager watch-out for idlers. He knows that they are easily caught. To get the boy or girl thoroughly interested in some good work will more surely rob Satan of his power than aught else. The home circle can undertake no more hopeful or important study than that which will employ all the hands and moments of the boys and girls. Even the city will furnish gardens. We all remember how the governor of Michigan helped the poor by stimulating the growing of potatoes on the vacant lots of Detroit. Can we as fathers occupy ourselves better than in securing the garden, helping at first to cultivate, to plant, and to glean? Let us insist, however, that it all belongs to the children. Let us praise the neat cultivation, the straight rows, the beautiful, thrifty plants; and let us so advise and direct that there may be no, or few oth-

ers. Let the children seek the market, prepare the vegetables, etc., in neatest fashion, do their own selling, and, most important of all, let them have *every cent* of the proceeds, to spend as their very own. If rightly guided—and the thoughtful home circle will always keep *guidance* in mind—the money will not go for tobacco, nor nonsense. Very likely it will go for books or papers that will guide to better profits. How rich is the culture that comes from such a scheme, well and successfully carried out! It will surely be the best school the child will ever attend.

I believe in education. I am sure no class can have too much. Were all our people thoroughly and wisely educated, most of the evils of our present society would disappear. I believe the educated farmer may exert a power for good that any man might justly envy. I talked this to my boy long before he entered college. I believe that the teaching that follows boyhood is the teaching that tells.

My boy, before he hardly reached his teens, had such a garden as suggested above. He also had a valuable partner—his younger sister. He also had two very interested spectators to advise, direct and encourage. They were the "tother" part of the home circle. That boy not only secured spending money—he got habits of thrift, of industry, of systematic work; and, best of all, he acquired such a love of the work, that he looked towards agriculture during all his college course, and to-day is an enthusiastic tiller of the soil. He has no use for tobacco, and if he ever uses profane or unclean language, a knowledge of the fact has never reached his father's ear. That little garden was a garden indeed. In it grew richer and better plants than celery or asparagus.

There are gardens and gardens. Setting the table may be the garden for the girl, or she may have a veritable flower-garden that perchance may take her into the sunshine and pathway to robust health. We must secure employment for our dear children. Their good and the safety of our country demand it. He or she that lets the club, business, society, or even church duties, rob the children of the care and thought that will secure to them habits of thrift, industry, and "patient continuance in well-doing," is making a perilous mistake. He or she who keeps the little hands wisely employed, and the little mind interested in all that the hands find to do, is the good angel of the child. May we not hope that there will be just such good angels in all our home circles? May these good angels be so wise and happy that the work of the child may be at the same time its best play.

AN APIARY OF MR. JOHN W. BAUCKMAN, OF FAIRFAX CO., VA.
(See page 402.)

MIMICRY.

I don't mean making faces. Bees and wasps are usually beautifully yellow and often brilliantly striped. They love sweets, and so gather thickly about the nectar-bearing flowers. Two-winged flies hover, and for like purpose, about the same flowers. These flies are also yellow and beautifully striped. Often they are so like the bees that only sharpest eyes can tell which is fly and which is bee or wasp. Why this semblance in color and markings? The bee and wasp have a sting. The bird picks up the handsome wasp only to feel the cruel smart, and spit it out, with a lesson that will save all other wasps from attack by that bird. The fly has no sting. It could not hurt the bird, and doubtless would be a delicate titbit for bird or youngling. Yet the fly has the wasp color, and the bird is fooled by this, passes the fly, loses the tender steak, and so the fly owes its life to its color-markings.

It is good to get our children interested in just such interesting things that are thick all about us. The cabbage butterfly in its black-dotted robes of white drops its green eggs on the green cabbage-leaves. Their green hides them from bird and insect; and so they are saved to life by mimicry.

The weasel is white in winter and brown in summer, and so profits by its color. Polar animals are white. Who of the children can tell why this white helps the weasel and the polar bear?

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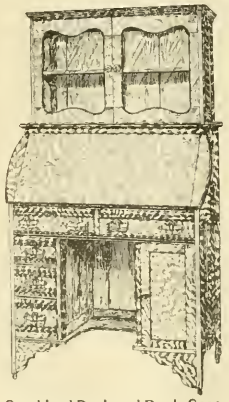

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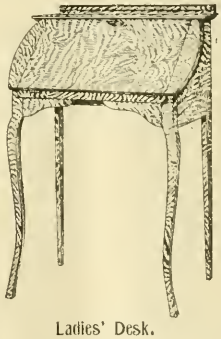

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Estimate the total vote in these three States combined for **Governor** and send your estimate and subscription to the American Bee Journal, and you will receive a certificate, which will entitle you to participate in the distribution of the **$15,000** to be awarded by the Press Publishing Association, of Detroit, Mich., to those making the nearest estimates of the Official Vote for Governor in the States of Ohio, Massachusetts and Iowa, to be determined by the Election held on the 5th day of November, 1901.

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Until Further Notice, every one who sends us a sufficient amount to pay his or her subscription to the American Bee Journal to the end of this year (1901,) provided the subscription is in arrears at least since Jan. 1, 1901; or to any one sending us $1 for a year in advance of next Jan. 1, 1902, will receive a certificate which will entitle him or her to participate in the distribution of the Prizes. No advance is made in the price of our paper; you get the certificate absolutely free.

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Valuable Information.

To aid subscribers in forming their estimate, we furnish the following data:

The combined Official Vote in these three States in

1891 was	1,537,493		
1892 was	1,684,420	increase	9.56 percent
1893 was	1,616,422	decrease	4.04 percent
1894 was	1,533,887	decrease	5.10 percent
1895 was	1,576,452	increase	2.77 percent
1896 was	1,920,718	increase	22.22 percent
1897 was	1,572,109	decrease	18.40 percent
1898 was	1,532,540	decrease	2.52 percent
1899 was	1,653,389	increase	7.89 percent
1900 was	1,965,610	increase	18.88 percent

The certificates of the Secretaries of the States named showing the Combined Official Vote will determine who are entitled to the Prizes, and the awards will be made within 30 days after the Official Vote is known.

The American Bee Journal will publish the names of the successful Estimators.

Statement of MR. W. A. PUNGS,
President of the Central Savings Bank, Detroit, Mich.:

I HEREBY CERTIFY, that the Press Publishing Association has deposited **$15,000** in the Central Savings Bank, Detroit, Mich., for the express purpose of paying the Prizes in their contest on the Combined Official Vote of the States of Ohio, Massachusetts and Iowa, and that this fund can be used for no other purpose.

W. A. Pungs

President Central Savings Bank, Detroit, Mich.

PRIZES to be Awarded as Follows:

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Total, **997** prizes, amounting to		$12,800

In addition to the above Prizes, the following Special Prizes will be paid.

To the person making the nearest correct estimate before July 10	$1,000
To the person making the nearest correct estimate between July 10 and Aug. 10	700
To the person making the nearest correct estimate between Aug. 10 and Sept. 10	500
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GENERAL ITEMS

Prospects Poor—Queenless Colony.

There is no prospect of a honey crop here, as it rains nearly every day, and all bees that have swarmed go straight for the woods. We had an open winter, and bees wintered without loss. Four of my colonies lost their queens, and have been robbed out. I think it better if robbers get started on a queenless colony in the spring, to let them go, as they are never worth trying to save, for the bees are all old, and it spoils a good colony to open the hive before fruit-bloom here.

C. G. ASCHA.

Berkshire Co., Mass., June 8.

45 Pounds from One Colony.

My bees are doing well, and I have had five swarms so far this spring. I have taken about 45 pounds of honey from one colony, and there is that much more that is not quite ready to be taken off. C. C. YOST.

Berks Co. Pa., June 10.

Has Had 3 Swarms Up to Date.

My bees are in good condition. I have had three swarms up to date, and now have 20 colonies.

Most of my neighbors lost from 50 to 75 percent of their bees in wintering. The honey-crop last year was a total failure here.

J. H. RUPP.

Washington Co., Kans., June 8.

Bees Wintered in Fine Condition.

We have 84 colonies of bees which came through the winter in fine condition, only four being lost; but the spring being wet and cold has thus far been very unfavorable for them. We have had no swarms as yet.

CRAWFORD BROS.

Oscoda Co., Mich., June 1.

Prospects of a Good Honey Crop.

The past year was very disastrous to the bee-business in this locality, as there was no honey gathered last season, and fully half of the bees died of starvation. But the outlook is good for a honey-crop this season, as white clover is doing well.

I fed my bees last fall. I lost one colony in eight through spring dwindling, and now have 10 colonies, most of which are in fair condition. J. SEIBOLD.

Champaign Co., Ill., June 3.

Imported Queens—Transferring.

The weather has been so dry that the prospect for white clover honey is slim. Bees have built up quite well, and are ready for work. There was considerable loss among some of the bee-keepers here, one man losing 24 colonies out of 75, while others lost 10 or 12 out of 40 or 50. The loss was caused mostly by the queens dying.

My imported queens wintered well. I have received some more queens from Italy in the finest condition of any I have yet had. It pays me to get the best of queens, as it was the imported stock that gave me all the surplus honey I got last season, and if I get any this year it will be from them, if strong colonies count for anything.

Some bee-keepers stand up for the little black bees, which may be all right for their locality, but not for ours, or at least I have so found it. I have three colonies of blacks on trial that I transferred about two weeks ago.

I have read of a good many different ways of transferring, so I will give my plan: I first fit up a light board larger than the brood-frames, by laying on it four or five strings of

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common wrapping-twine long enough to tie around the frame. Then lay a frame on the strings and take the ends of the strings that are under the bottom-bar and lift them on top. Against the bottom-bar of the frame on the strings I lay a thin strip of wood the same width as the bottom-bar, and just long enough to fit inside of the end-bars of the frame, and I am then ready to place the combs in the frame. I have them as near the full size of the frames as the combs will permit, keeping the combs against the top-bar, and then cutting them even on the lower side, so that the strip that fits inside the brood-frame will touch the lower edge of all the pieces of the comb, always fitting as nearly square as possible. In tying the combs in I press the strip of wood firmly against the bottom of the comb, so as to tighten the comb against the top-bar of the frame, and hold it firmly till my helper ties the strings, trimming off the strings to within $\frac{3}{8}$ of an inch of the knot, always having the knot come on the edge of the top-bar.

I then take another board larger than the brood-frame, and press hard enough with it to level the "crinks" out of the comb. I next take the first board, comb, frame and all, to the hive I wish to put the bees into, put the frame into the hive, and proceed thus until all the combs are used, and the work is done for a week. After that length of time I take the stick off, and what strings the bees haven't removed, and as a rule I get as nice combs as if the bees had done the work in the first place, full sheets of foundation excepted. It is always easiest to transfer during fruit-bloom.

ARTHUR A. HOUSER.

McDonough Co., Ill., June 5.

Cold Spring Hard on Bees.

I have had to feed my bees a good deal this spring, because it has been so cold until now, when they are beginning to store a little honey.

D. J. BLOCHER.

Stephenson Co., Ill., June 6.

First Honey Taken Off.

I took off my first section of honey to-day. It is light amber, and has a very fine flavor, but I have had nothing in my past experience that will aid me in determining what source it was gathered from. Can you or your Pennsylvania readers give me any assistance?

I planted two acres of buckwheat, May 24, 1900, and kept record of the work done on it by the bees. Do you want the notes? It was successful owing to fortunate showers, but would not always prove so.

Bees wintered very poorly in this locality. I have 36 colonies left out of 52, and all but five of these are strong enough to store sweet clover as soon as it blooms.

L. C. SALISBURY.

Bradford Co., Pa., May 30.

[Perhaps some of our Pennsylvania subscribers can answer as to the source of that first honey.

Yes, we are always glad to receive notes of an interesting or helpful kind, bearing on the subject to which the Bee Journal is devoted. —EDITOR.]

80 Percent of the Bees Dead.

This is a very poor year for honey in this locality, and 80 percent of the bees are dead. It is so dry that most of the blacks have starved. I still have 16 colonies.

GEO. W. SHRADER.

Carroll Co., Mo., June 6.

Comments on the Score-Card.

As a member of the committee on score-cards, I wish to say to Mr. Hasty that the reason why I ignore drones is because the County and State fairs are held in September, and the drones are mostly killed off in August. I believe it is a rare thing to see drones in nuclei in September, unless they are queenless.

To that item of "Color and Markings," I would prefix the word "Uniformity," so that it would read "Uniformity of Color and Markings," especially where the golden Italians and the leather-colored compete in the same class.

I like to see the comments and criticisms on the score-card, and hope it will be perfected at the next meeting of the Association.

Juneau Co., Wis., June 10. F. WILCOX.

THOSE
Long-Tongue Adels

BEAVER, PA., April 4, 1901.
From one 3-frame nucleus you sent me I took 213¼ pounds of extracted honey.
WM. S. BARCLAY.

Each Queen, $1.00.
Essay, "How Not to Rear Queens," sent free.
24A4t **HENRY ALLEY, Wenham, Mass.**
Please mention Bee Journal when writing.

Northern Italian Queens!
Reared from Imported Mothers.
Our stock is so carefully bred and selected, as to secure car-loads of honey. Locality free from foul brood and other bee-diseases. Prices: 1 untested Queen, $1.00, 6 for $5.00; 1 tested Queen, $1.50, 6 for $7.50; best imported Queens, $6.00; fair imported, $5.00.
ADA L. PICKARD,
18E7t RICHLAND CENTER, WIS.
Please mention Bee Journal when writing.

Golden - all - over - Long - Tongued Queens, by return mail, $1.00. Address,
THE SWARTHMORE APIARIES,
SWARTHMORE, PA.
Please mention Bee Journal when writing.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.
GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

I am Now Prepared
to fill orders promptly for Untested Queens reared from a breeder of the HUTCHINSON SUPERIOR STOCK, or a select GOLDEN breeder, and mated to Golden drones, at 75 cents each; $4.00 for 6, or, $7.50 per dozen.
Money order office, Warrentown, N. C.
W. H. PRIDGEN,
22Atf Creek, Warren Co., N. C.
Please mention Bee Journal when writing.

ALBINO QUEENS If you want the most prolific Queens—If you want the gentlest Bees—If you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.
11A26t **J. D. GIVENS, LISBON, TEX.**
Please mention Bee Journal when writing.

BEE HIVES, SECTIONS AND ALL BEE-KEEPERS' SUPPLIES.
Big Catalog Free. Write now. Lenhy Mfg. Co., 2415 Alta Sita, E. St. Louis, Ill.
6A26t Mention the American Bee Journal.

Send for circulars regarding the oldest and most improved and original Bingham Bee-Smoker. FOR 23 YEARS THE BEST ON EARTH.
25Atf T. F. BINGHAM, Farwell, Mich.
Please mention Bee Journal when writing.

Low Rates to Buffalo Exposition
via the Nickel Plate Road. 3 through trains daily, with vestibuled sleeping-cars and excellent dining-car service, meals being served on the American Club Meals plan ranging in price from 35 cents to $1.00. Chicago Depot, Van Buren Street and Pacific Ave., on the Elevated Loop.
Write John Y. Calahan, General Agent, 111 Adams St., Chicago, for full information and beautifully illustrated descriptive folder of the Exposition Buildings and Grounds. 11—24A3t

Bees Numb With the Cold—Clovers.

Early yesterday morning (June 9) I noticed bees around their drinking-places numb with the cold. I have many times warmed up the water to prevent them from getting chilled.

Last fall white clover was very abundant—almost like blue-grass sod. But it was not protected by the snow during the winter, and much of it was destroyed. It is only to be found in hollow places, and where it was protected.

Basswood trees have no buds, as far as I have been able to ascertain. Sweet clover is very rank and abundant; the yellow variety is gaining a foothold yearly, and its friends are increasing. We have had no swarms as yet, and there are no prospects of any.

MRS. L. HARRISON.

Peoria Co., Ill., June 9.

Frost and Ice the Last of May.

We had a frost here last night, and ice formed. Bees are killing off drones this morning.

C. J. ANDERSON.

Cook Co., Ill., June 1.

Influence of Queens.

D. B. Norton says in the American Bee-Keeper:

It is a notion with me that a young Italian queen from good stock is a panacea for all bee-diseases. Many a colony dwindles in spring, or is robbed during a dearth of honey in summer because its queen lacked spirit, either from age or some other cause. If you would see the influence of a queen on her bees, take the mildest colony that you have, and also the most irritable, and exchange their queens and note the effect 36 hours after the queens are liberated.

Wintering in an Inside Cellar.

Ira Barber claims that for the best success in wintering not the slightest quantity of air should be allowed to enter directly from the outside, the slightest breath of outer air making the bees anxious to get out. An experience at Medina makes Editor Root seem inclined to become a disciple of Mr. Barber. Thirty-eight colonies were wintered in an inside cellar in the basement of the machine shop. This basement (perhaps it ought to be called a cellar) is 36x96 feet, with a floor above 7 inches thick, and inside of this was an apartment 8 feet square with no provision for entrance of air only as it entered through several thicknesses of heavy matting and carpeting which formed one of the inside walls. The temperature in the bee-chamber stood at 48 degrees, and there was plenty of fresh air in the surrounding larger room at 40 degrees or more, outer doors or windows being opened whenever necessary to keep down the temperature to 40 or 45 degrees. Notwithstanding the bees were left entirely alone, subject to the trampling of feet and the rumbling of machinery above, the first examination (Feb. 21) showed the bees per-

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Branch, G. B. Lewis Co., 19 S. Alabama St., Indianapolis, Ind.
Excellent shipping facilities and very low freight rates for Southern and Eastern territories.

BEST

Basswood and Alfalfa Honey

in 60-pound tin cans, f.o.b. Chicago—two cans in a box—at these prices: 9 cents a pound for one box of two cans; two boxes (4 cans) or more at one time, 8½ cents a pound.

We have only a limited quantity of the Basswood honey. Sample of either kind, postpaid, 10 cents. Address,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

25 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 25 cents a pound—CASH—for best yellow, upon its receipt, or 27 cents in trade. Impure wax not taken at any price. Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

Marshfield Manufacturing Company.

Our Specialty is making SECTIONS, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

8A26t Marshfield Manufacturing Co., Marshfield, Wis.

Red Clover Queens

LONG-TONGUED BEES ARE DEMANDED NOW.

ONE Untested Italian Queen FREE as a Premium for sending us TWO new subscribers to the American Bee Journal for one year (with $2); or, one Tested Queen free as a premium for sending us FOUR new subscribers with $4.00).

We have arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us the coming season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

All queens guaranteed to arrive in good condition, and all will be clipped, unless otherwise ordered.

CASH PRICES of these fine queens will be as follows: Untested, $1.00 each; Tested, $2.00 each. Send all orders to

GEORGE W. YORK & CO.
144 & 146 Erie St., CHICAGO, ILL.

fectly quiet and healthy—not half a pint of dead bees were on the floor. In Gleanings in Bee-Culture we are told how the bees came out, as follows:

On the 1st, 2d, and 3d of May we took all the bees out of the cellar under the machine-shop. They were in fine condition, and apparently just as strong as when they were put in last fall, about the first of December, but had little or no brood. They had been confined just about five months. During all this time they were very quiet, and the number of dead bees on the cellar bottom was the smallest I ever saw. Well, now for the results:

Our Mr. Wardell says that those colonies are away ahead of the outdoor-wintered ones of the same strength last fall. The larger force of bees has enabled them to take care of large quantities of brood, now that they are outdoors; and the probabilities are that, when the honey-flow comes on, they will be worth nearly two of the colonies wintered outdoors. We estimate that our outdoor bees lost very heavily during the great storm of April 20—a storm that was a record-breaker, and which will go down in history as one of the heaviest ever known. While the weather was not very cold, yet after the snow had fallen the bees flew out on the warm days following, dropped on the snow, and never got back. Thousands and thousands of bees were housed during this big storm, and were not put on the summer stands till about ten days later.

Ira Barber, in our last issue, recommends putting more bees in the cellar and raising the temperature. Our cellared bees were kept in a higher temperature than any bees we ever wintered indoors; and they wintered the best, irrespective of the noise above in the machine-shop. But I am afraid that, if the temperature had been as high as Mr. Barber recommends, they would not have fared as well as they did. Nevertheless, we shall test his ideas on a small scale next winter.

Co-operative Queen-Rearing.

The editor of the American Bee-Keeper mentions the scheme of the California bee-keepers to have one man rear a definite number of queens for the crowd at a cost of 15 to 25 cents each, but does not grow very enthusiastic over it. He says:

We have great faith in the possibilities of co-operation; but our prayer that Mr. Martin may live to see his plan in successful operation, we confess, is not backed by the implicit faith which we should be pleased to entertain.

Principles of Breeding.

Like those who raise sheep and cattle, bee-keepers are breeders of live-stock. The first principle in breeding—the one which every breeder accepts as sound and worthy of all acceptation—is that "like produces like." This is a rule as old as the Scripture that affirms its truth by asking, "Do men gather grapes of thorns or figs of thistles?" It is even older, for you all remember Jacob, the thrifty keeper of the flocks and herds of his father-in-law Laban, and how wisely he managed the breeding, with the inevitable result that "the feebler were Laban's, and the stronger Jacob's."

We expect the offspring to be like the parents. We are sure that the little will not produce the great; we are no less sure that the large will not produce the small. We expect the striking characteristics of the parents to be repeated in their children.

The first rule, then, to be kept in mind by the breeder is, that to have the best he must breed from the best. This is the law. He who violates it suffers the penalty which most of us must bear as best we can, and get along with what is worse than the best.

But the law that "like begets like" must not be interpreted too rigidly. Each of the higher animals has two immediate parents, and grandparents without number, and they all have their influence under the same law. The father and the mother are never exactly alike, and the differences in the grandparents

are likely to be greater in number, if not in degree. You have seen children with the appearance of the father and the disposition of the mother—the outer characteristics of one parent and the inner qualities of the other. One child may inherit the weakness of the father and the strength of the mother; another may receive the endowment of the unfortunate, the imperfections of both; while one in ten thousand may unite in himself all the good gifts which both his parents could transmit. These choice products of fortunate unions are the hope of the human race; among the domestic animals they are the seed and the secret of progress and improvement.

The great breeders of cattle, horses and sheep recognized these facts, and realized that if they would improve their stock they must breed toward an ideal. To be able to predict results, they must be able, in a measure, to control conditions. This control of conditions in breeding means nothing less than to control the mating of the animals. Without such control there can be no systematic progress in breeding. The intelligent breeder must know his animals, their weak points, as well as their characteristics of strength, and he must bring such animals together as will neutralize each other's defects, and accentuate the points of superiority.

I have spoken of heredity and of what is called variation. These are the fundamentals in breeding. Heredity determines the type. It holds to what has been gained. It declares that the young shall be what the parents are. Variation provides for progress. It does not annul the law of heredity. It supplants it and makes possible the improvements we hope for, just as it has made possible the development that has brought all organized animal and vegetable life to its present stage. Heredity is conservative, holding to the doctrine that it is better to retain what is good than to run the risk of spoiling it by struggling toward the unknown. Variation is not satisfied. It insists on making experiments. It has built the breeds.

The breeder has his evil genius. Heredity, or conformity to type, is at the bottom of his business. Given the breed or type suited to the man and the situation, and heredity will keep it substantially as it finds it. Given a man who is a real breeder, and he will take advantage of heredity and variation, and improve his animals by selection, by in-and-in breeding, by cross-breeding, and by feeding and care. All the while he must guard against his evil genius, which the wise men call atavism or reversion. Every observant breeder has seen its effects. It is also called "breeding back," "crying back," "throwing back," and other self-explaining names.

Some of you, no doubt, have supposed that I would speak of breeding bees or breeding queens. How could I, knowing nothing on the subject? To open the subject for discussion, let me ask a few questions, first reminding you that I have already called attention to the necessity of controlling conditions in breeding.

There are many who advertise tested queens and pure queens of the several well-known strains, and I believe that there are some who advertise pedigreed queens. Do you know any breeder who controls the mating of his queens? Do you know any one who can say with confidence that his queens have been fertilized by strong, healthy drones from colonies that are successful honey-producers? Or, is it true that the breeding of bees is practically natural? Is it true, as I in my ignorance have been led to suspect, that the breeders of queens for the market are not true breeders at all—that they are not sure of the ancestry of the queens they sell, and know nothing of the mating? Is it possible to control the breeding of bees and provide a pedigree that will be a trustworthy record along both male and female lines?—Read by D. W. WORKING, at the Colorado State Convention.

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QUEENS!

Improved Golden and Leather-colored Italians are what **H. G. QUIRIN** rears.

We have one of Root's best long-tongued **Red-Clover Breeders** from their $200 queen, and a Golden Breeder from Doolittle, who says if there is a **BREEDER** of golden bees in the U.S. worth $100, this one is worth that sum. The above breeders have been added to our already improved strain of queens for the coming season.

J. L. Gandy, of Humboldt, Nebr., wrote us on Aug. 5th, 1900, saying that the colony having one of our queens had already stored over **400** pounds of honey (mostly comb); he states that he is certain that our bees work on **Red Clover**, as they were the only kind in his locality and apiary.

A. I. Root's folks say that our queens are extra fine, while the editor of the American Bee Journal tells us that he has good reports from our queens from time to time. We have files upon files of unsolicited testimonials.

After considering the above evidence, need you wonder why our orders have increased each year? Give us a trial order and be pleased. We have years of experience in mailing and rearing queens. Safe delivery will be guaranteed, and instructions for introducing sent with each lot of queens.

QUEENS NOW READY TO MAIL.
Prices after July 1st:

	1	6	12
Selected	$ .75	$ 4.00	$ 7.00
Tested	1.00	5.00	9.00
Selected tested	1.50	8 00	
Extra selected tested, the best that money can buy,	3.00		

Folding Cartons, with your address printed on in two colors, $4.00 per 1,000; 500 for $2.75.
Address all orders to

H. G. QUIRIN, Parkertown, Ohio.
(Parkertown is a Money-Order Office.)
By contract this ad. will appear twice per month only. 14E13t

1901—Bee-Keepers' Supplies!
We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog.
M. H. HUNT & SON, Bell Branch, Wayne Co., Mich
Please mention Bee Journal when writing

DO YOU WANT A HIGH GRADE OF
Italian Bees and Queens?

2-frame Nucleus with Untested Queen, $2.00, purchaser paying express charges.

Naperville, Ill., May 28, 1901.
DEAR SIR:—Bees arrived in good condition. Transferred them to hive and gave them honey. Have reinforced them with hatching brood. Are working when not too cold. Have right color, and are satisfactory. D. B. GIVLER.

I like your way of packing bees to express.
E. K. MEREDITH, Batavia, Ill.

Months	July and August.		
Number of Queens	1	6	12
GOLDEN QUEENS.			
Untested	$ .90	$ 4.50	$ 8.00
Tested	1.25	6.50	10.00
Select Tested	2.00	9.00	16 00
Breeders	5.00		
HONEY QUEENS.			
Untested	$ .90	$4.50	$ 8.00
Tested	1.25	6 50	10.00
Select Tested	1.50	7.00	12.00

Safe arrival guaranteed. Descriptive price-list free. D. J. BLOCHER, Pearl City, Ill.
26Etf Please mention the Bee Journal.

YELLOWSTONE PARK.
Extended tour, leisurely itinerary with long stops in the Park. Private coaches for exclusive use on the drive. Pullman sleeping and dining cars. Established limit to number going. Escort of the American Tourist Association, Reau Campbell, General Manager, 1423 Marquette Bldg., Chicago. Colorado and Alaska tours also.

Tickets include all Expenses Everywhere
Train leaves Chicago via Chicago, Milwaukee & St. Paul Railway, Tuesday, July 9, 10:00 p.m. 20A2t

Please mention Bee Journal when writing Advertisers

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, June 19.—New comb honey has not yet reached this market. It would sell at 15@16c if choice white, and the ambers at 12@13c. The market is entirely bare with exception of a few cases of a lot that we had held for us, expecting it would be needed. Advices are that shipments will be started by July 1. Very little trading is being done in extracted, as large dealers will not contract this season unless at low figures; some sales of amber have been made at 4½@5c for early autumn delivery; white is held at 5½c. Beeswax sells at 30c.
R. A. BURNETT & Co.

DETROIT, June 8.—Strawberries are taking the attention, and very few sales of honey are made, but prices seem to keep up on good lots. Beeswax in fair demand at 27@28c.
M. H. HUNT & SON.

CINCINNATI, May 17.—No demand for comb honey, also stock of it well exhausted. Extracted very dull; sales are more or less forced; lower prices from ½ to 1 cent per pound.
C. H. W. WEBER.

BOSTON, June 14.—There is practically no comb honey in our market, and owing to warm weather very little call for it. Are expecting some new comb early next month. Market for extracted dull, at 6½@7½c.
BLAKE, SCOTT & LEE.

OMAHA, May 1.—Comb honey, extra white, 24-frame cases, per case, $3.40; No. 1, $3.25; amber, $3.00. PEYCKE BROS.

NEW YORK, June 1.—Extracted honey is ex ceedingly dull and very little moving. We quote for the present: White, 6½@7c; light amber, 5½@6c; amber, 5@5½c. Some demand for comb honey at unchanged prices. New crop is now beginning to arrive from the South, and sells at from 12@15c, according to quality and style. Beeswax, 29c. HILDRETH & SEGELKEN.

ALBANY, N. Y., June 18.—Honey market is dull with no receipts or stocks and little demand. It is between seasons now. Prospect of good crop in this vicinity from what bees there are left, the greater portion having been killed by foul brood exterminators. H. R. WRIGHT.

BUFFALO, June 14.—No demand at all. Few old lots here almost unsalable. When new is ready it will sell moderately well at fair opening prices. BATTERSON & Co.

KANSAS CITY, June 14.—Very little old honey on our market but what is damaged by being granulated. Sales are light at 15 cents for best grade No. 1 Colorado. Amber, 13c. Beeswax firm at 25@30c.
W. R. CROMWELL PRODUCE Co.,
Successors to C. C. Clemons & Co.

SAN FRANCISCO, June 5.—White comb, 11½@12½ cents; amber, 9@10c; dark, 6@8 cents. Extracted, white, 5@6c; light amber, 4@4½c; amber, 3½@4c. Beeswax, 26@28c.
Dealers are very bearish in their ideas, but are not securing much honey at the prices they name. In a small way to special trade an advance on quotations is being realized.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,
The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.
PACIFIC RURAL PRESS,
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BEE-SUPPLIES!
ROOT'S GOODS AT ROOT'S PRICES
Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.
WALTER S. POUDER.
512 MASS. AVE. INDIANAPOLIS, IND.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

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OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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LEARN TO SING

AT HOME by my thorough method of training. With my complete course I guarantee to train and cultivate your voice or refund your money. The best musical knowledge arranged especially for Home Study. Has Highest Endorsement. Beautiful descriptive booklet sent free. Address

Prof. G. M. Whaley, Kalamazoo, Mich

Please mention Bee Journal when writing.

ITALIAN QUEENS, warranted

Tested, $1.00; Untested, 75 cents, by return mail.
RIVER FOREST APIARIES,
21Atf RIVER FOREST, Cook Co., ILL.
Please mention Bee Journal when writing.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	70c	$1.20	$2.75	$5.00
Sweet Clover (yellow)	$1.50	2.80	6.25	12.00
Alsike Clover	90c	1.70	3.75	7.00
White Clover	90c	1.70	4.00	7.50
Alfalfa Clover	80c	1.40	3.25	6.00
Japanese Buckwheat	30c	.50	1.00	1.60

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.

I ARISE

To say to the readers of the BEE JOURNAL that

DOOLITTLE...

has concluded to sell QUEENS in their season during 1901, at the following prices:

1 Untested Queen	$1.00
3 Untested Queens	2.25
1 Tested Queen	1.25
3 Tested Queens	3.00
1 select tested queen	1.50
3 " " Queens	4.00
Select Tested Queen, last year's rearing	2.50
Extra selected breeding, the very best	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t Borodino, Onondaga Co., N. Y.
Please mention Bee Journal when writing.

24th Year Dadant's Foundation. 24th Year

We guarantee satisfaction.

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS. PATENT WEED-PROCESS SHEETING.

Why does it sell so well?

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

Langstroth on the Honey-Bee—Revised,
The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

Please mention Bee Journal when writing.

A Bee-Keeper's Paradise.

En route to El Paso.—I have just come from a county about 40 miles square that has more bee-keepers to the square mile than any other locality of its size I ever visited. The inhabitants talk bees at the hotels, on the streets, and everywhere, just as farmers talk crops and business in the North. This county produces more honey than any equal area, I believe, in the United States. Some say that its yearly output is a *whole trainload of honey;* but many aver that this is too low, and that two whole trainloads would come nearer the truth. Of course this great amount doesn't go all in one lot, but in large and small shipments.

The average per colony is high, and there is a honey crop every season. It is estimated that in this one county, outside of the towns, nearly one-half the population are bee-keepers.

The great bulk of the honey is of the very finest, and some of it is literally water-white. There are thousands and thousands of acres of honey-plants on cheap land; and bees—there are not enough to gather it all.

The bees commence swarming early in the spring; and, *when the main honey-flows commence, actually stop swarming,* destroy cells, kill off the drones, and commence business. Did you ever hear the like of it before? You say, "No, and no one else." Well, I think I can prove every statement; but for the present I am not at liberty to give the place or other details; but very shortly I'll tell the whole story, with some fine pictures.

This is only one of the good things in store for readers of Gleanings in Bee-Culture. Send 15 cents for three months' trial or 25 cents for six months' trial, or $1.00 for one year and one untested Italian Queen. Send $2.00 and we will send Gleanings one year and one of our Red Clover Queens. Speak quick if you want one.

THE A. I. ROOT CO., Medina, Ohio.
(U. S. A.)

GEORGE W. YORK & CO. 144 & 146 Erie Street, CHICAGO ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., JULY 4, 1901.

FORTY-FIRST YEAR
No. 27.

WEEKLY

MR. TOFIELD LEHMAN HIVING A SWARM ON THE RASPBERRY BUSHES.—(See page 418.)

THE AMERICAN BEE JOURNAL

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DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

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To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

F. MEHRING, of Germany, the inventor of comb foundation, is also the first one who ever transferred larvæ. He described the method and his experience minutely in the Dorf-Zeitung for 1866.—Gleanings in Bee-Culture.

DR. C. C. MILLER, of McHenry Co., Ill., wrote us as follows, June 25:

Yesterday the 100 degree mark was reached, which is just the thing for bee-weather, only we need rain. We started in the season with a shortage, and have never caught up. Red clover leaves curl up with the drouth.

MR. R. V. GOSS, of Jasper Co., Ala., has sent us a picture of his home bee-yard, called "Wildwood Apiary," which will be found on page 426 of this number. Mr. Goss keeps bees for pleasure, preferring them to horses, dogs, etc. The people seen in the engraving are Mr. Goss and his two little "queens"—Mabel and Lois.

W. WANKLER, of Germany, makes the claim in L. Bienenzeitung, 1863, page 112, to have invented and used an implement of his own for measuring bees' tongues, in 1882. He says he exhibited the same at a bee-keepers' meeting and exhibition in Frankfort, in 1883, where he sold the instrument to Frank Benton.—Gleanings in Bee-Culture.

EDITOR E. R. ROOT is at present doing his work on the fly, and at long range. He is a progressive editor, making a progress of a good many miles some days through the "South countree." He complains that a 40-mile rate of speed on a railroad with its accompanying lurches is not conducive to straight writing, but the lines in Gleanings in Bee-Culture appear straight enough.

MR. TOFIELD LEHMAN, of Fayette Co., Iowa, besides being a bee-keeper, is also an amateur photographer. On the first page of this issue, as well as on page 421, will be found samples of his own work.

He began to keep bees in 1892, and has been quite successful during all that time. His bees have been working wonderfully well lately, white clover being plentiful. He looks for a good crop of honey this season.

MR. J. M. RANKIN, the new foul-brood inspector of Michigan, is an energetic sort of chap—one who is bound to succeed in his work. The Bee-Keepers' Review has this to say concerning him:

☐He has nearly completed a course at the Michigan Agricultural College, working his way through, turning a penny in any way that was honorable, even if not always so pleasant.

☐He was one of the first, if not the first, to call attention to the difference in length of the tongues of different strains of bees, and to urge the breeding of bees with this end in view.

He is very enthusiastic in his work of fighting foul brood; so enthusiastic that, when called away last year to help in its extermination in distant apiaries, he would go out moonlight nights and shake off the bees, so as to avoid trouble from robbers. A man that will do that is going to "get there." It is in this enthusiasm that I build my hopes.

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., JULY 4, 1901. No. 27.

Editorial.

1000 Members in the National Bee-Keepers' Association! Are *you* one of that "ten hundred?" If not, now's your chance to be counted in the *first thousand*. Read on.

The National Association of bee-keepers meets this year at Buffalo, N. Y., Sept. 10, 11 and 12—only a little over two months from now. We have just learned that the Association at present has a membership of about 800. We have long felt that it ought to have at least 1000 good and true bee-keepers on its membership roll. Why not make it that number by the time of the Buffalo convention? It could very easily be done, and in this way:

Let each of over 200 of the host of readers of the American Bee Journal who are not now members, send to us his or her dollar before Sept. 1, and the thing will be done. Don't wait until the last week of August to do that, but send the dollar to us *now*. Upon its arrival here we will forward it to Mr. Secor, the treasurer, who will mail you a receipt therefor.

It seems to us that this ought to be done. Is it impossible to have a national organization of bee-keepers in this country with a membership of 1000? If so, we are done with the whole thing. But we believe *it can be done*. We are certain that with the matter placed properly before the readers of the American Bee Journal alone, at least 2000 of them would be glad to join the National Bee-Keepers' Association, and thus aid by their influence and dollars the cause in which they are so much interested.

We will begin to publish a list of *names* of all who send us their membership dues, beginning next week (provided any come in by the time our next issue goes to press), and will continue to do so until the 1000 membership is secured, or at least until the time of the Buffalo convention. We have faith enough to believe that there are plenty among those who read these lines to raise that membership roll above the 1000 mark. Is our faith too strong? Wait and see—*after you have sent us your dollar*.

Of course, the foregoing applies only to those who are not now members of the National Bee-Keepers' Association. All such are hereby invited to send on their dues *to us at once*, so we can begin to publish that list of names next week, or at latest in two weeks.

Hurrah for 1000 members!

Pan-American Apiarian Exhibit.—We have received the following from Superintendent O. L. Hershiser, which he desires to have read by the New York bee-keepers especially:

NEW YORK STATE APIARIAN EXHIBIT AT THE PAN-AMERICAN.

Nearly all the honey in the New York apiarian exhibit is to be replaced by honey of this year's production, as soon as the latter can be obtained from the bee-keepers of this State. A goodly number of New York bee-keepers are now represented, but it is desirable that many more participate. Let all bee-keepers of this State, who are so fortunate as to be favored with fine honey, both comb and extracted, correspond with the superintendent of the New York Apiarian Exhibit, with a view to sending in an exhibit. There will be absolutely no expense to the exhibitor further than the extra pains he takes to produce fine exhibition honey, and in the extra care taken to ship the same in a manner to minimize danger of breakage.

OREL L. HERSHISER, *Superintendent*.
1106 D. S. Morgan Bldg., Buffalo, N. Y.

Mr. Hershiser writes us that everything points to a good convention for Buffalo. The use of the lecture room, committee rooms, etc., of the Buffalo Society of Natural Science has been tendered for the use of the National Bee-Keepers' Association, so they are therefore ready with a good hall. He believes that entertainment will be reasonable, and looks for a very large attendance. We hope there will be even a larger gathering than met here in Chicago last August. But that was a record-breaker. Will Buffalo equal it? Having the extra attraction of the Pan-American the Buffalo convention ought to equal the one held here in 1893, during the World's Fair.

Fat and Lean Bees.—W. W. Case talks about this in Gleanings in Bee-Culture, explaining how it is that a bee-keeper may be mistaken about the bees of a certain colony being larger or smaller than the average. He says that bees get fat or thin according to food conditions, although the fattening process does not enlarge the thorax. He might also have added that a bee may increase perceptibly in size within a few minutes by filling its honey-sac. He says:

> In going through my apiary when honey has not been gathered for a month, I have often been struck with the thought, "Are my bees degenerating?" they seeming smaller in appearance than usual; but after a week's run of honey I am struck with the thought, "What fine, large, sleek-looking bees they are!"

Strong Colonies for Big Yields.—More than one reason can be given why strong colonies should be kept, but it is a very hard thing for a beginner to get away from the thought of the number of hives he has with bees in them rather than the total number of bees in his apiary. Give him his choice between 10 colonies of 40,000 each, and 18 colonies of 20,000 each, and it is quite possible that he may prefer the latter. The 18 colonies look more to him from the outside. It is true that in the latter case he will have eight more colonies, but he will have 40,000 less bees.

Even some with more experience might make the mistake of thinking that 20 colonies of 20,000 bees each would store just as much honey as 10 colonies of 40,000 each. Without thinking, he may say, "There will be just the same number of bees in either case, 400,000, why will they not gather the same amount of honey?" Let us figure. Schachinger's experiments showed that when

20,000 bees stored daily	½	pound of honey,			
30,000	"	"	1½	"	"
40,000	"	"	4	"	"

According to that, a colony of 40,000 bees will not merely store twice as much, but eight times as much! That does not mean that doubling the size of the colony will in all cases give eight times the stores, for a colony of 80,000 bees would not be likely to store eight times as much as a colony of 40,000, and the ratio would vary as the size of colonies would vary, but the general rule will hold good, that in all cases there is great economy in having a large number of bees in each colony rather than to have them divided up into a number of smaller colonies.

This matter will appear less strange when it is remembered that a certain number of bees are needed at home to keep up the heat and take care of the brood, and the *proportion* of these will be less in a strong colony. It can easily be seen that it will not require twice as many bees to protect two frames of brood as it will to protect one.

It is especially commended to beginners to give this matter careful consideration, and to remember that their success does not depend on the number of hives with bees in them, but upon the number with a strong force in each.

Placing Combs on a Wagon.—Considerable discussion has occurred, especially in Gleanings in Bee-Culture, as to the proper way to place combs to prevent breaking in hauling. All agree that on a car the frames should be placed parallel with the rails, the ends of the frames pointing to the engine. As to hauling on a wagon, however, there was not entire agreement. But a great deal of testimony is to the effect that either on smooth or rough roads the greatest joling is sidewise, and that the frames should be crosswise, with the ends pointing toward the wheels and not toward the horses.

Contributed Articles.

"Jouncing" Bees Out of Extracting-Supers.

BY C. DAVENPORT.

THE editor of the Bee-Keeper's Review, one of the most prominent men in our ranks, has said that freeing combs from bees is one of the most laborious parts of the work in producing extracted honey. Probably all will agree with him in this, for it is certainly a great deal of work to brush the bees from each comb separately, and for a number of reasons escape-boards are far from being as satisfactory to clear full-depth extracting-stories of bees as they are comb-honey supers. Why this is so I will not take space to explain, for I wish to describe the method I practiced last season, to clear full-depth extracting stories, also comb-honey supers, and what I shall say about this may, in my opinion, be of more practical value to many who are engaged in our pursuit in a large way than the subscription price to this journal would amount to in 25 years.

I feel perfectly free to say this, because the method was not original with me, and I claim no credit whatever for practicing and describing it. Rambler, of California, is the man to whom all honor about this is due, and this matter illustrates not only the value of taking our bee-papers, but also of reading all there is in them. For years I have read those rambles of the Rambler, in many of which there was little said about bees, or anything connected with them, and in some of them he had more to say about girls than about bees—not that I have any objection whatever to reading about girls, (far from it,) but if it was otherwise I should be many times repaid for reading all he wrote.

If some one was to offer me $50 not to practice this method for 10 years, I would not think of accepting.

This thing, or method, Rambler called a "jouncer," and having, I trust, given full credit to its inventor, I will describe my method of using his invention.

Mine is simply a box about 20 inches long, 12 inches wide, and 10 inches high, ends made of lumber 1 inch thick, and the sides of boards ½-inch thick. That is all there is to it—simply a box without top or bottom. Rambler's was better, and made somewhat differently, but mine works well enough.

The method of using it is to set it down in front of a hive which has a super or extracting story we wish to clear of bees. After taking off the cover and giving the bees a few good, strong puffs of smoke, the upper story is taken off and set down on this jouncer, so it rests across the side pieces, which should not be over ½-inch thick. Now by the cleats or hand-holes at each end, the super is raised up an inch or so, and then suddenly dropped on the thin side-pieces of the jouncer. This is repeated a few times, and the results are surprising. With full-depth extracting-stories a half-bushel or so of bees will be on the ground around the jouncer.

As I have said, this is set right in front of their hive and the bees soon crawl in. Until one tries it he would not believe the ease and rapidity with which bees can be jarred or jounced out in this way, after one acquires the knack of doing it just right. It takes longer and requires more jouncing to clear a super of comb-honey than it does an extracting super, for many of the bees, when they fall from the combs, strike the bottom of the sections, which prevents them from falling out. With extracting-combs there is nothing to prevent their falling out on the ground. But most of the bees in the sections can be jarred out in this way more easily, in my opinion, than the supers can be cleared by escape-boards. Besides, what I regard as a great advantage of this plan over escapes is, that the work is done at once, in one operation. It is the method I employed exclusively last season with all surplus that came off the hives. And, seriously, I consider it one of the most valuable things I have learned in regard to our pursuit in many years.

Of course not all the bees can be jarred off in this way, but near enough so I pay no attention to what are left. The honey-house is right in the yard, the windows of which are arranged to allow bees inside to escape, but they prevent those outside from entering; so after jarring out in this way what bees I readily can from a super, it is carried in, and what bees are left soon find their way outside.

When a large number of supers are carried in at one time, they are piled cross-wise of each other. This is important, to have the bees leave the supers and house readily. When the supers are tiered up tight in the regular way, many of the bees will range up and down the whole tier a long time before they seem to feel convinced that they can not find their friends and mother somewhere in the piles.

I have seen it advised where the honey-house was in or near the yard, to carry in the supers—bees and all—or at least as many of them as would not readily leave by the use of smoke. But this plan, as no doubt those who have practiced it in a large way will be willing to testify, is a very poor method to practice. It will work in a small way, but when a good many bees are in each super, and a large number of supers are carried in at one time, there is such a mass of bees inside that they can not very soon leave by an ordinary escape; and when there are such great numbers they do not, for some reason, seem to wish to leave. I have had large bunches of them hang around to the rafters overhead for days, when there was nothing to prevent their escaping, and after being thrown outdoors many of them would hover around the door and windows, and again enter if they got a chance. When such a great horde are carried in, the noise and confusion that occurs, or something else, seems to effect or derange many in some way so that they take little interest in the world afterwards, or even seem to know where they are or belong. Some may think that these young bees are not old enough to know the location of their hive; they are bees of all ages—young, middle-aged, and old—and during the working season it is not difficult to tell pretty closely how old a bee is; but the worst part of this method with section-honey is that considerable of it may be consumed and damaged by these bees that stay in the house and supers so long, for they do not hesitate to eat what honey they need, or rather apparently, all they can possibly consume.

But what bees I can not jounce out leave the house readily, and with extracting-frames what few bees are left bother but little, even if extracting is commenced as soon as the supers are carried in.

It would be natural for one to think that it would be hard, heavy work to jounce in this way full-depth stories that are well-filled. It is not, though, for a man of average strength with 8-frame hives; and it is a great pleasure to see the bees roll out.

Still, many who read this, and try the plan, may regret that I ever wrote anything in regard to it, for by this method it is a very easy matter to break extracting-combs, especially new, unwired ones. I broke a number before I acquired the knack of doing it right, and found out just how hard a jounce new combs could stand. But this was little loss, for I fastened them in the frames again with twine, and the bees attended to the rest even to cutting off and carrying out the strings after they had the combs fastened.

Sections, the combs of which are but slightly attached at the top only, can also be readily broken loose by jouncing; but I use bottom starters in sections, which insures the combs being fastened to the wood more than strong enough to endure what jarring is necessary to clear them of bees. This jouncing does not need to be heavy and hard—a very quick, light jounce will accomplish more. The super should be raised but slightly each time. It is the quick, rapid jars that cause the bees to loosen their grip and roll out.

Southern Minnesota.

Prove Theories Before Accepting—A Correction on the Dickel Theory.

BY F. GREINER.

ON page 359, Prof. A. J. Cook gives us a very interesting article on the Dzierzon and Dickel theories. After reading it carefully I am satisfied that no one else would write it as ably and use all the scientific terms correctly. The article contains two minor points which, according to my conception, are not fully true, to which I draw the attention of the Professor as well as the thinking reader.

Prof. Cook says in regard to the queen laying fertilized and unfertilized eggs: "The queen adds or withholds the sperm-cell at will." It is pretty clearly proven by the late experiments of Weisman, that the queen does lay fer-

tilized and unfertilized eggs, but that she should do so at will is nowhere proven, to my knowledge. It is very doubtful in my mind that it ever will be. Without any fear of being proven incorrect, I might claim that the queen always acts compulsorily, that she can not do any differently than add sperm to the worker-egg, and withhold it from the drone-egg. In fact, it seems more reasonable to suppose that these delicate and peculiar organs of the queen act involuntarily, the same as they do in other living beings. We have heard it and read it so much, that a queen can fertilize eggs at will—we have been brought up with this idea—that we scarcely give it any thought. We take it for granted that it is so. Where is there any proof? All we really do know is that she lays both fertilized and unfertilized eggs, and places them in different sized cells, each kind in a special cell; but we jump to the conclusion that she does it knowingly.

It is misleading to speak positively of a thing we do not know. As long as we consider it a theory, an assumption, some inquisitive mind may be induced to ferret the matter to the end.

PART OF HOME APIARY OF TOFIELD LEHMAN.—See page 418.

As to the worker-bees determining the sex of the egg, the Professor quotes and criticises Dickel as follows:

"Dickel thinks that they [the bees] add saliva [to the egg after it has been deposited in the cell.] In case he is correct in his observation, his conclusion that this has something to do with determining sex does not follow."

On this point I beg to say that Dickel does *not* claim that *sativa* added to the egg determines its sex; he claims this for *another* secretion, the product of a special set of glands (of systems II and III, according to Dickel), the secretion of one determining the male, of the other the female, the secretions of both systems combined determining the sex or nature of the worker. On this basis Dickel attempts to explain how it comes about that abnormally-built workers develop. Perhaps not many of us have observed these funny-looking workers with a drone-like head. Under "Questions and Answers," page 360, such are spoken of. It would be interesting to know how the queen that produced these bees would behave in some other colony.

It is not my object to criticise Prof. Cook—I simply wish to draw attention to these facts as I understand them.

Ontario Co., N. Y.

An Italian "Atlas of Bee-Culture."

BY C. P. DADANT.

MR. A. DE RAUSCHENFELS publishes in Milan, Italy, a new edition of the magnificent chromos of the anatomy of the honey-bee, drawn by the Signor Clerici, after the microscopic studies of Count Gaetono Barbo, which were originally published some 25 years ago, under the auspices of the Central Association of encouragement to bee-culture in Italy. A copy of this work is before me. The present issue, instead of being in detached plates, as formerly, is in the shape of an Atlas (Atlante Di Apicoltura) and gives, not only the 30 chromos, in book form, but also a descriptive text opposite each plate. In addition, an extensive and thorough treatise on bee-culture, of the same size, and containing 380 pages and numerous engravings, accompanies the atlas. The title of the latter work is, "L'Ape e la sua coltivazione"—The Honey-bee and Its Cultivation."

Although many have been the microscopic studies, and many have been the publications on the honey-bee, nothing more extensive and more accurate has ever been produced. Girard's cuts, as is well known, are all reduced copies of these chromos. Others have borrowed from them also. The work is now in such a fine shape that it is to be regretted that it has not been published also in a more universal language than the Italian.

The following is a synopsis of the contents of the Atlas:

Plate 1.—A comb with worker-cells, drone-cells, queen-cells, both sealed and unsealed.

Plate 2.—An Italian queen, magnified to 7 inches in length.

Plate 3.—The head of a queen magnified to 2½ inches.

Plate 4.—The genital organs of the queen, the ovaries, ducts and spermatheca.

Plate 5.—Eggs and larvæ, highly magnified.

Plate 6.—The curved sting of the queen-bee, showing the very diminutive poison-sac, and abortive poison-glands.

Plate 7.—The drone magnified to 6 inches in length (Italian drone).

Plate 8.—The head of the drone, showing the large compound eyes, ocelli, and small mandibles.

Plate 9.—The ocelli, or smaller eyes, of the drone, magnified 45 diameters.

Plate 10.—Sexual organs of the drone, the penis, sperm-glands, etc.

Plate 11.—The penis of the drone magnified 15 diameters. Spermatozoa of the fertilizing fluid, magnified 150 diameters.

Plate 12.—The worker-bee, Italian.

Plate 13.—The head of the worker-bee, diameter 3 inches, the antenna magnified to 2½ inches in length.

Plate 14.—The composite eye of the worker-bee magnified to 4 inches.

Plate 15.—The tongue of the worker-bee, magnified to a length of 7½ inches.

Plate 16.—The wing of the worker-bee magnified to the length of 7½ inches. This is hardly up to Cheshire's cut of the same thing, as it does not show plainly the plait and hooklets by which the parts of the wing are hinged together in flight. This is most thoroughly shown in Cheshire's work.

Plate 17.—Anterior and posterior legs of the worker-bee. This is not quite so much detailed as Cheshire's.

Plate 18.—Main artery, which, as we understand it, is practically the heart of the bee (Vaso pulsante).

Plate 20.—Salivary glands of the worker-bee. These are the glands which are believed to help prepare the royal jelly, and give the peculiar bee-flavor to honey. Much discussion among scientists has taken place concerning this matter.

Plate 21.—The breathing apparatus of the bee—air-sacs, tracheæ, and breathing orifices.

Plate 22.—Digestive apparatus of the worker-bee showing the tongue and its appendages, the honey-sac, stomach, Malpighian tubes, and intestines to the end of the rectum.

Plate 23.—Sexual organs of the worker-bee. Atrophied ovaries of a worker; ovaries of a drone-laying worker.

Plate 24.—The wax-producing organs.

Plate 25.—The sting of the worker-bee.

Plate 26.—Nymph or chrysalis of a worker-bee, during its transformation, or metamorphosis.

Plate 27.—Microscopic view of foul brood, now called "bacillus alvei."

Plate 28.—Magnified cut of bee-moth, miller and worm.

Plate 29.—Braula cœca or bee-louse, magnified. Also mandible of fruit-piercing wasps.

Plate 30.—The death-head moth (Sphinx atropos), a large moth which is said to enter the hives, in Europe, and feed upon the honey in spite of the bees.

The price of the work, both volumes, is 12 lire. It could probably be furnished to American students for about $3.00 per copy. It is a fine work of art, well worthy of the country in which it has been produced—the birthplace of fine arts.

Hancock Co., Ill.

(Continued from page 390.)

No. 2.—Some Reminiscences of an Old Bee-Keeper.

BY THADDEUS SMITH.

IT is not my intention to go into the history of the first invention or use of the movable-comb hive, as I have not the statistics, and it does not come within the scope of these papers. Mr. Langstroth's patent, I think, was issued in 1852, or about that time, and he admits that some kind of movable combs were used in hives in Europe by Munn, Huber, Dzierzon, and perhaps others, some eight or ten years before his invention or improvements on the hive. I have not even Mr. Langstroth's book before me to refer to on these matters, and I do not wish to go beyond my own memory, assisted by reference to some numbers of the old American Bee Journal.

The invention and introduction of movable-frame hives certainly created a new era in bee-keeping in this country, and the introduction of the Italian bee about the same time gave a still greater impetus to the business. But the Italian bee would have made slow progress in this country had it not been for the movable-comb hive—probably it never would have been disseminated here at all to any great extent.

When Mr. Langstroth offered the first practical working movable-frame hive to the country, involving principles that had never been used in any hive in Europe, there were many, I might say hundreds of imitators and those who professed to have made improvements upon the standard Langstroth hive by making all sorts of changes, mostly of little, and many of no, importance; and on many of these changes and so-called improvements patents were taken out when the only thing of real merit about them was the *movable*-frame principles of Mr. Langstroth's patent. Scores of these hives, patented and non-patented, were offered and highly commended to the bee-keeping public, the most of them taking the name of their introducer. We had the Quinby hive, King hive, Alley hive, the Flanders three-cornered or Diamond hive, Thomas hive, American hive, Adair's "New Idea hive," "The long Ideal Hive," Gallup hive, Heddon hive, and Price's Reversible, Revolvable hive, and—I think I would better end the list here, for time and space forbid the mention of all of them.

Mr. H. R. King was probably the most persistent of these so-called new hive inventors, in trying to invalidate Mr. Langstroth's claims to originality in his hive. He made a trip to Europe and spent thousands of dollars for the purpose of collecting evidence to disprove Mr. Langstroth's claims. He found, as I have stated in the beginning of this article, that frames of some kind had been used by certain ones in Europe some years previous to Mr. Langstroth's invention; but they all proved so different from Mr. Langstroth's hive, and so crude in comparison, that Mr. Langstroth's claims were sustained in the suit brought to test the matter. N. C. Mitchell was another hive patentee who violently assailed Mr. Langstroth's claims, and established a new bee-paper for that purpose. In the early seventies the battle of the bee-hive men waxed warm indeed.

The only hive besides the Langstroth, of the new patents, that I was ever induced to try, was that of J. H. Thomas, of Canada. Mr. Thomas set forth the claims of his hive in numerous letters to the American Bee Journal and other prints, and boldly stated that he had "the best hive in America." About that time I had left "my old Kentucky home, far away," and was located in the Queen's Dominion, on Pelee Island, and although I had brought with me the Langstroth hive as made in Cleveland, Ohio, I concluded to try the Thomas hive, and ordered half a dozen.

This hive was an admirable adaptation of frames to the form of the old box-hive—tall in proportion to length and breadth, was well made, and of neat appearance. For surplus there was the ordinary cap, covering a neat honey-box with glass in each end. There were but eight frames, and they were fixed so as to be stationary, but still by a peculiar arrangement were very easily handled. It had a sloping bottom-board with a lot of minor "fixings" of no especial value. The frames, of course, were large. Soon after this I became the owner of a Peabody honey-extractor, and the Thomas hives did not suit me. I abandoned the use of them, although I had made a number besides those I bought. There is one about now, in first-rate state of preservation for having laid in the lumber-room of my barn for the past 20 years; others went for hen's nests and chicken-boxes.

As so many were getting up new hives—patented and non-patented—your humble servant thought he could get up one, too—of course, an improvement on anything that he had seen or heard of!

I early became greatly interested in Mr. Gallup and his writings, of whom I may have more to say under another head; and took his hive and descriptions for my model—*with changes and improvements, of course!* May I be pardoned for giving an extract from an article on "The Hive Question," printed over 30 years ago, descriptive of *my* hive, as I wish to make some comments on it in connection with other hives. Here is an extract:

"I have made a hive on the plan of Mr. Gallup, that I believe possesses many advantages, and is capable of being used more ways, with the same size frame for all the different styles, than any hive I have seen described. The brood apartment is the plain box of Mr. Gallup—11 inches wide, 14 inches deep, 18 inches long, or as much longer as may be desired. The frames are hung across the narrow way.... We can use this hive, 1st, as a simple frame hive with large room on top for surplus boxes; 2d, by extending the length to any desired number of frames; frames for surplus honey may be put in each end for emptying with the extractor; 3d, it can easily be made a two-story hive with the same size frames in the upper story; 4th, by having movable side-boards it may be made a non-swarmer, on Mr. Quinby's and Mr. Alley's principle, and piles of honey-boxes may be put on the sides and top. I have one with 13 frames, 16 five-pound boxes form the sides, and three 12-pound boxes on top—all enclosed in a suitable case. From all that I have read on the subject of hives, I think that I have hit the golden mean in width and depth.... I call this hive, with its non-swarming and box arrangements, the '*Quinqueplexal-Duplex-Combination-Non-patented-Super-floors-Honey-producing Hive.*' It is said there is nothing in a name, but if I could only get Mr. Price's '*Reversible-Revolvable*' attachment, with the privilege of adding the name, there would be considerable improvement in adopting this compilation for the modified arrangement."

Of course the name was intended as a burlesque on the many claims of some other hives. But I was in earnest in thinking that I had the "golden mean" in size, and a good thing in a hive that could be used in so many different ways with the same frame, but I never applied for a patent nor offered a hive or a "territory" for sale, though I had material got out in the flat for 50 hives for my own use.

I had a hive made with open side and side-boxes, as described—the non-swarmer; I put two hives together end-wise, and had the "long-ideal" hive. I put two side by side, with one side of each open, and had the "twin hive," and by putting one on top of the other I had the two-story hive, or three stories, if desired, as I have sometimes used them.

I have recently read where the writer of the article said in effect: "Before you go into side-storing surplus arrangements extensively, first find out if you have the side-storing kind of bees." I was not long in finding out that my bees were not the side-storing kind, and all my hives except the two stories went to the lumber-room. I think some are there yet—have been for 20 years. I am using some of these hives now as two-story—25 frames for extracting; and they make good supers for my chaff Langstroth hives. For better wintering I made some with double walls with air-spaces.

I have found it to my advantage to use the extractor, and these frames work well in it. I bought the Peabody as soon as I heard of it on the market. It looks as if it would never wear out, but I got a better one a number of years ago—the Cowan reversible.

It is undoubtedly true that there have been many improvements made upon the original Langstroth hive in the first form given to us, especially the box that contained the frames. The introduction of the extractor, the more general use of section surplus boxes, and general advancement that has been made in bee-keeping in the last half century, demanded something different—more simple in construction, and better adapted to present wants, but maintaining the same principles of the movable comb that Mr. Langstroth invented; and the great majority of the hives now in use have the same size frame, with the same relative proportions as first recommended by Mr. Langstroth, and those in which but small changes have been made from the Langstroth frame are in almost universal use in this country.

And where are the hives of King, of Thomas, of Flanders, and of the whole list of these so-called improved hives? Echo answers, "Where?" We certainly hear but little from them now through the press. And their makers and inventors? Many no doubt, like Mr. Langstroth, have passed over the border to the Beyond, where they are free, we hope, from toil, envy and strife. And the rest of us old fellows—their cotemporaries—must, in the nature of things, soon follow.

Ontario, Canada.

Swarming—Moving Bees—Queens, Etc.

BY J. M. DAVIS.

"LOOK! thar's a whoppin' big swarm, whars yer cow-bell? Guess I ken stop 'em."

"Oh! Tom, don't hop so excitedly, and don't punch a hole in the bottom of my wax-extractor. Just let them alone, and you will soon see they will settle without any music. Hand me that little wire cage off the shelf, and come with me, no danger at all. See, here's the queen climbing this blade of grass. Ah! that's accommodating. Just to walk right into the cage, off the grass. See, Tom, they are clustering in the top of that apple-tree?"

"Wal, Kunnel, that's the fust swarm of bees I ever saw stopped without a racket. Thet's the purtiest and longest bee I ever saw, why, she is as yeller as gold. Wat was she skirutin' in the grass fur? Tho't kings went up with the swarm."

"Well, Tom, you stick to your kings, loyally—but you will have to desert your cullors. Queens rule here. I keep one wing clipped off all my queens to prevent them leaving with the bees. See this one has her wing clipped."

"I declar, the idee of cuttin' off a bee's wing. Sara Jane cuts her chickens' and turkeys' wings off to keep them out of the gardin; but I never'd a tho't of cuttin' a bee's wing. Whar's yer saw? I'll jist clime that tree and saw off the limb for you, Kunnel."

"Oh! never mind doing that, Tom. Please just help me move the old hive back here—that's alright. Now, kindly help me place this new hive in place of the old one, there, now place the caged queen at the entrance over at that shady corner. You will now see how I hive bees."

"Yes, and I told you Kunnel, to let me rap on the old basin, or they will lite out."

"No, Tom, you just wait, see they are coming down to the new hive on the old stand, and are going in nicely—now you may unstop the cage and let the queen go in with them. See how quick she went in; now the job is done, they will all be back in a few minutes, and soon be at work again. I think we have given the imported bees time to have their flight; so let's take a look at her ladyship, the queen.

Why, yes, they are working as nicely as any colony in the yard, although they haven't been here two hours. I will first remove the screws that hold on this frame covered with wire-cloth, you see they have all gone down. This frame is two inches deep, but when we arrived it was full of bees clustered so as to relieve the brood-chamber of as much heat as possible. In warm weather they need fresh air, therefore when we move them far, an extra space for a part of them to cluster in should be furnished, and the hive covered with wire-cloth, then there is less danger of overheating and melting the combs down."

"What's thet sponge for Kunnel, tha don't cypher do tha?"

"No, Tom, that held their drinking water, see [squeezing] they used nearly all of the water. This enabled them to keep the young brood alive during the journey. A few folds of old linen, or cotton cloth, answers very well soaked with water, and laid on the frames as was this sponge.

These corrugated sticks were put in to hold the frames apart, one at each end on top and one in the center at the bottom. I will place them in this new hive as I remove the frames and then I won't be bothered with the corrugated stick on the bottom."

"Why, Kunnel, they seem to fit jist as well in this gum as t'other. How did you hapen to git 'em so alike, four hundred miles away?"

"Tom, these hives are made and shipped all over the country; every piece fits any hive, no matter if you buy it in Australia. It would be a great help to us for all bee-keepers to use a standard frame; and I will be glad to see one adopted. See, here is the queen and a fine one she is."

"Thet's tru', Kunnel, she's a whopper, broader between the shoulders and longer than t'other one, but not so purty gold-like, as t'other one, and these bees are longer too, but three strips of gold around them. T'other was nearly all gold lookin'. Say, Kunnel, what on airth is she crawfishin' into thet cell fur, has she sot down to rest?"

"Ha! ha! why she is depositing an egg. Tom, see, she is through, and peeping into other cells to find an empty one—there, watch her."

"Now, if that ain't funny, didn't she hump thet long back and crawfish as purty like. Say, Kunnel, I hev heard of hens layin' two eggs a day, but I never bleved they culd do it. Look, thet old huzzy is humpin' her bak agin. Well, that's three in a minute and a half, is she all eggs?"

"Very nearly so, Tom; at least she can deposit from three to four thousand eggs in a day of twenty-four hours. You see, they do not stop at night. These eggs would make a pile about as long as the queen I think."

"Gee, whiz! Wish we could get some Italian chickens and geese and turkeys an' ducks. Can't you 'port 'em Kunnel?

"We could get them, Tom, but they would be no better than yours, probably not as good. I see my wife at the window waving her handkerchief, and here I've been over two hours without going up to see whether she was dead or alive. I became so engrossed with my bees that I forgot everything, and I just now remember I haven't had my breakfast and dinner. You see she pets me some when I've been away."

"Thanks, Kunnel, I jist thot of it, Bil Johnsin sed he'd cum to my house at ten o'clock to buy my yearlings and I reckon he thinks I have left these diggens. I will hev to hurry on. I got that ocypide with the bees that I forgot everything 'cept Sara Jane, and I jes wish she war here to see 'em."

"Very glad to see you take such an interest in them, and you seem not to be afraid of them now. I will need some help this summer, and if you can come over and bring Jake to-morrow, we will extract some honey, and see if I can't give you some further instructions. Say, Tom, you need not wear out your cow-bells ringing down your swarms, just spend that time getting your hive ready, and you will spend it more profitably."

"Kunnel, I will be ded sho to come and bring Jake to-morrow an' help you. Jake is a peart lad, jist twelve yest'day an he's mity fond of bees. I see your wife shakin' thet 'kerchief at you, and you had better go, or she will be after you. Good evening, Kunnel."

"Good evening, Tom, I shall expect you."

"Good mornin', Kunnel, Jake and me hev been here *two hours* and Sara Jane she thot we would *be late*."

"Good morning, Tom, and Master Jake, I am especially glad to see little boy bee-keepers. They make the best ones in the end. Tom, you see the bees are cross early in the morning. The sun has warmed them up now, so we will get to work, everything is ready."

"Well, Kunnel, Jake he's mighty struck and ses he's goin' to be a bee-keeper and get some *hitalan* bees."

"Alright, my boy, I will help you get started. Now bring out the wheel-barrow, and nine dry combs, while I start the smoker. I always have it handy—but use it as little as possible. I find cedar bark, well packed, lasts longer, and gives the best volume of smoke of any fuel. Here is number one, see, I gently pry off the top, and use just a little smoke, push several frames just a little nearer together, so as to get room to draw out a frame without crushing the bees. Now I give the frame a quick jerk, which you see clears the comb of most of the bees, and this long turkey feather soon gets off the balance; now as we have out three frames of honey, I will put in one of the empty combs every time I take out a full one. Here is one full of honey, but not capped; we will leave that, as it is too thin when not sealed to make a good grade of honey. It is not '*ripe*.' After extracting this honey, we will exchange the empty combs with number two, for her full combs, and so on through the apiary. Tom, draw your honey-knife across the sharp edge of the cross-piece over the uncapping can, to clear off the honey, and when the knife gets gummy put it in a bucket of water, which dissolves the honey, and you will find that it will then shave off the cappings nicely. Here is a new tender comb, and I will have to turn the extractor much slower to prevent breaking the comb."

"Kunnel, sum of these combs are made of black wax, and sum of white wax, whar do they get the different culors?"

"All combs are like this new one when first made, but become black with age. I have old black combs just thirty years old, but I get just as nice clear honey from them, as from these new ones—besides they are tough and stand more rough handling than new comb."

"Kunnel, here is a low gum. What we goin' to do here?"

"Let us see how they are getting along. Oh! nicely, they are sticking on little bits of white wax along the top cells, and are crowded with bees. Hand me that queen-excluding zinc off the wheel-barrow, and I will put on these freshly extracted combs, which will put them right to

work in the super. Jake, you run up into the extracting room, and get us nine empty frames for the next hive. Well, this is the last hive, and we have taken about four thousand pounds in ten and a half days. Now, I want to arrange cells for a few hundred queens. We will not need our smoker, as I do not breed from cross bees."

"Wat's them little yaller things you're gittin,' Kunnel?"

"Queen-cells, Tom."

"They are mity purty, Kunnel. Does the queen stick them on the little stick that way?"

"No, Tom, the queens do nothing except deposit eggs. My little daughter, Annie Dane, makes these for me, it is just fun for her, and saves me a great deal of time, as I use hundreds of them."

"Well, I declar, thet child is only eight years old, an makes such nice little things? Looks to me like it would take a regler jueler to do sich work, how on airth does she make them so thin and smooth at the mouth and so round and nice?"

"I will lend you a book, written by Doolittle, that explains this fully, and let me say right here, Tom, I would not go back to the old method of queen-rearing for one thousand dollars cash. That book is worth its weight in fine gold."

"Well, Kunnel, I will put it under my piller every nite and bring it back soon as Sara Jane and me and Jake reads it; an we will be mity proud to read it. Wat's thet quill spoon for, Kunnel?"

"This is to transfer the larvæ from the worker-cells to the queen-cells. I will show you the modus operandi. Here are eighteen cells in this hive nearly ready to cap over. See, twelve are large and rough, four are smaller and rather smoother. I always destroy such cells, so I will take these four, and use their royal jelly to put in these new cells—hand me the stick, Jake."

"Why, Kunnel, here's a worm in this one, is it a moth?"

"No, Tom, it is a young queen, see I can throw them out this way, and dip up a small quantity of the royal jelly with my quill spoon, and place it in the bottom of the new queen-cells, thus; now, I have fixed thirty-two cells. I will get the larvæ from the 'Berberini' imported queen. See, I remove this dummy first, and find the queen."

"There she is, Kunnel, on thet frame."

"Thanks, Tom, your eyes are keen. You see I can not afford to risk dropping so fine a queen in the grass or to injure her, therefore I never take any chances. I will just take this frame and leave her in the hive. See, here is plenty larvæ just the right size, about twelve to twenty-four hours old. I slip my quill spoon under them this way, raise them out and slowly lower them into my queen-cells, until the point of the quill just touches the royal jelly at the bottom, and by drawing it back, the little larvæ sticks to the royal jelly, which is in its nature glutinous. Now all the cells on this stick have larvæ in them. I will place it between these two combs of brood in super of number 50. See the stick fits tightly in this frame half filled with comb, and the brood on both sides will help keep the little queens warm, as the bees cover these combs all the time."

"Why, Kunnel, won't the little queens fall out, with the mouths of the cells down thet way? And how on airth do you take little worker-bees an make queens outen them?"

"No, Tom, they won't fall out, the jelly holds them, and its their nature to grow with their heads down. Never horizontally, like a worker-bee. The pecuiiar food given them in great abundance, and developing in large perpendicular cells, transforms them into queens.

Now, that I have my one hundred queen-cells stocked with larvæ, I will take out some ripe cells."

"Wat do you mean by ripe cells, Kunnel?"

"A ripe queen-cell is as easily distinguished as a ripe apple. See this stick of queen-cells. The points are all light-colored and pointed, these will be not be ripe for several days. Now here is a stick of cells that will hatch to-morrow. See they have blunt flat ends that are brown, and rough. The bees knowing that the young queens will want to come out to-morrow, are helping them by trimming off the points of the cells. I take them off the day before they are due, and carefully place them in the half-inch holes you see in this block, with the points resting on the little wool cushions so as not to jar, or injure the young queen. I have only twelve ripe cells this time. Tom, here is what we call a queen-nursery, which is merely a very small swarm of bees—enough to cover well, two or three Langstroth combs.

See this patch of brood? I place the cells thus, just above the brood and press it into the comb. See, no danger in pressing a Doolittle cell into a comb that way, but a very light pressure would destroy a natural cell. This nursery has been queenless two days, and will gladly accept the cell. Now here is a nursery containing a queen that I wish to mail to-night. Here she is; see I remove the cork in the end of this cage, and pick her up by both wings poke her head in the hole from which I took the cork, thus. See, she went in nicely, and to keep her there, I place the end of my thumb over the hole until I can put in ten or a dozen workers *not too young*. Now all are in, I replace the cork, tack on the cover, thus. Now I will put on a one-cent stamp and send them to the post-office. I will have to protect the cell, or the bees will destroy it before they miss their queen. This wire-cell protector prevents this, and by the time the young queen emerges from the cell, they will have discovered the loss and will gladly receive her. In two days she will be laying and I will ship her, give them another cell, and continue to do this until the season is over."

"Well, Jake, here is the new hive with foundation, all ready to hive your swarm on. You shall have a nice queen, a descendant of the Berberini stock, as soon as your colony is ready for her, and I predict that a progressive young bee-keeper will make his start with this colony."—Progressive Bee-Keeper.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Swarming—Long-Tongued Bees.

I take some encouragement from the letters of C. H. Harlan and F. M. Creighton, page 396, in knowing that sharp eyes are upon me with kindly hearts behind them. Mr. Harlan's statement is exceedingly interesting, and I am wondering whether he has exceptional bees or an exceptional locality. I wish he would give a little fuller light upon it. When he hives the first swarm in a new hive, if I understand him, he cuts out all queen-cells but one in the old hive, and then a little after this a swarm issues with the young queen from the cell that was left. Now, how long after the cutting out of the cells does this swarming occur? Then does he mean that from this same old colony a third swarm will issue six or eight weeks after the issuing of the *second?*

Mr. Creighton thinks that long tongues would be of no advantage in his locality. He is no doubt in a very large company who think only of red clover as the one honey-plant to give value to long tongues. A correspondent in the Southland Queen speaks of a honey-plant with tubes so deep that the bees only get part of the nectar, and he thinks long tongues are needed to get it. Mr. Doolittle says, page 293, "long-tongued bees would be an advantage to those residing where red clover and *other long-tubed flowers* abound." (Italics mine.) Is it not possible that these long-tubed flowers are generally distributed everywhere? Does Mr. Creighton *know* that within the range of his bees there are no flower-tubes so deep that his bees can not reach all the nectar in them? If he does not know this, then he does not know that long-tongued bees "would store no more honey" for him. If he does know it, will he kindly tell us *how* he knows it? But I'll throw up my hat with him, and hurrah for the bees that don't swarm, in preference to the ones that get the red clover honey.

C. C. MILLER.

Swarm Left After Being Hived.

At noon to-day I hived a large swarm of bees, then set the hive beside the old one that the bees came from, intending, when I came home from the shop at 6 o'clock, to change places with them, putting the new one where the old one was; but at 6 o'clock there were no bees in the new hive. Do you think they went back into the old hive, or left for

the woods? The entrances both faced the same way, and were close together. The new hive contained full frames of comb with a little honey in some of them.

CONNECTICUT.

ANSWER.—I don't know, but I'm afraid they went to the woods. At any rate, without knowing anything about the cases except that 100 large swarms after being hived had deserted their hives, I should feel pretty safe in saying that not more than one or two of them had gone back to the hive from which they came. You ought to be able to tell something about it by the appearance of the old colony. If the swarm did not return to it, the scarcity of bees ought to be easily noticed. The position of the hive had nothing to do in the case, except that it would help to make the bees desert if the hive stood in the hot sun. The chief factor in inducing a swarm to desert its hive is heat. Be sure that the hive is very open at the bottom, and for a day or so it is well to have the cover a little open, and if the hive does not stand in a shady place use some means to shade it, if nothing better to cover it with an armful of long grass or hay, anchored down with two or three sticks of stove-wood. Some make a practice of giving to a swarm a frame of brood.

Self-Hiving Arrangements for Swarms.

Can bees, when swarming, be transferred to a new hive by closing the opening in the old and new hive so as to be queen-tight, except a wire gauze connecting the two hives through which the queen could pass into the new hive, and the worker-bees to pass out and in as usual? If this plan would not work at all, please say what the objections would be.

WASHINGTON.

ANSWER.—Several different arrangements have been gotten up on the principle you mention. I don't know enough to tell you exactly as to the objections, but I think none of them have given enough satisfaction to be continued.

Are Bees Taxed in Wisconsin?

Are bees assessable for taxation in Wisconsin?

WISCONSIN.

ANSWER.—I don't know. A lawyer, or an assessor, ought to be able to tell you. There is no reason why they should not be taxed as well as other property.

Wants to Be a Big Bee-Keeper.

I am a boy of 16, and I love to handle bees. I have an apiary of six colonies, and would like to enlarge it to 75 or 100 by next spring. I can buy bees in this county at from 50 cents to $3.00 per colony in box-hives, and I think there will be a boom in bee-keeping in this part of the country in a couple of years, as the common red clover has gone out of existence, and the famous alfalfa is taking its place. There will be thousands of acres in alfalfa. My apiary is situated on the banks of Big Pipe creek, and its fertile valley will yield acres of alfalfa. The farmers can't get a stand of red clover any more, and almost every farmer has a patch of alfalfa started for seed, and in three years the Big Pipe valley will be all alfalfa. Will the bees work on alfalfa in this country? How can I start a big apiary here? I have the bee-fever, and nothing will stop it but hundreds of colonies of bees.

MARYLAND.

ANSWER.—Alfalfa is grown on a large scale in the West, and many tons of alfalfa honey are secured, but I have never known of its yielding honey anywhere east of the Mississippi. To decide the matter for your locality, wait till alfalfa has been in bloom a few days, then watch to see whether bees are busily engaged upon it on bright, hot days.

If you want to run your six colonies up into the hundreds, it will be advisable for you to gain a full knowledge of the business by carefully studying one or all of the books on bee-keeping you can get, and also gaining practical knowledge by actual work with the bees. By studying a good bee-book you will learn something about the principles of bee-keeping that will allow you safely to take into your own hands the matter of increase if you do not prefer increase by natural swarming. If you want to increase from six to 75 or 100 this year, it should be mainly by purchase. Aside from what you purchase, it will hardly be advisable for you to increase the six to more than 18, and 12 would be better. Your increase of knowledge and experience should keep pace with your increase in bees, if indeed it does not outrun it, and unless you have had considerable experience with bees it might be better not to increase this year, either by purchase or otherwise, to more than 25 or 50. When you have thoroughly studied your text-book there will be questions arising to trouble you, and it will be a pleasure to help you out in this department.

Any Nectar in Mullen?

Is there any nectar in the mullen-bloom? IOWA.

ANSWER.—I don't know. I never saw a bee at work on it, but it is not plenty where I live.

Requeening by Hiving Swarms.

I have some colonies of bees that are building up slowly, the queens being probably old or inferior. If I remove the queens and in a day or two hive a new swarm in with them, would you approve or disapprove of this plan of requeening them? If it meets your approval, would you give them a first or second swarm? PENNSYLVANIA.

ANSWER.—It would probably work all right. Unless the colonies are very small it would be as well to use second swarms.

The Gehring Bee-Veil.

A correspondent writes in defense of the Gehring bee-veil, referring to page 313, and says that he has used just such a veil himself in the hottest days without inflicting punishment on himself, and thinks it "the all-around best for beginners." He says:

"A beginner doesn't want a patent bee-veil, nor an expensive one, nor one that is hard to make, bunglesome to wear, or easily torn when worn among trees and bushes. A veil, the whole of which is made of bobbinet or cape-lace, may do very well for a regular bee-keeper who has clear sailing every day in his well-kept apiary; but it will not do so well for a man or woman needing one only occasionally, and then perhaps in climbing a tree after a swarm. Did you ever try a Gehring bee-veil, Doctor? If not, your criticism is not up to your usual grade."

I may say in reply, that I hardly see why a beginner should not have the same kind of a veil as a regular bee-keeper. The bobbinet veil I spoke of wearing is not patented, nor expensive, it is simpler to make than the Gehring, and it is not bunglesome to wear. I suppose it is more easily torn than cheese-cloth, but I have little trouble with its tearing, even when climbing trees. I do not know that there is likely to be clearer sailing in the apiary of the beginner than in that of the veteran. The beginner in bee-keeping is likely to have his place just as well kept as one who has kept bees for years, and in either case I should rather have a veil that requires care to prevent tearing, than one that would be uncomfortably warm.

No, I do not remember ever to have worn a veil of cheese-cloth. Neither have I ever worn one made of woolen flannel. But I know without wearing a woolen-flannel veil that it would be warmer than one of cheese-cloth. Do you really think I can not know that a cheese-cloth veil would be warmer than one of open lace-work, without actually wearing it? For me the most open veil I have ever worn is a punishment on a very hot day, and I doubt that I am more sensitive in that respect than most persons. So I should not advise the general use of cheese-cloth for bee-veils, either for a beginner or a veteran. If any one is so exceptionally constituted that he will feel no inconvenience on the hottest days from a cheese-cloth veil, by all means he should use the closer, firmer material.

C. C. MILLER.

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

THE TRUE HOME THE CORNER-STONE.

I need not say in these "Home Circle" papers—I need not say anywhere, for it surely goes in all our blessed country without saying—that the true home is the very corner-stone in every true society. The best society is builded on its homes. The child that knows no home is bereft indeed. The child that knows not the truest harmonies that alone can make the true home, loses the best that can enter into the life—the soul—of any child.

I dare say I have said all this in other form before. It will bear repetition. I may wisely say it over and over. I hope my readers may take up the song and give it warm, glad utterance. Let us wake in the hearts and minds of all our dear children, the idea of the blessedness of the best home, that we may beget in them an absorbing ambition each day to be the head or centre of the very best home felicity. To this end let me have all your ears to-day as I press the importance of our

SPEECH IN THE HOME.

I am a believer—a sincere believer—in prayer. The man whose life is not braced and anchored in prayer lacks a best help to make his own life superlatively excellent, and his own home what the "Loving Father" wishes it to be. I wish we might all daily pray, "Oh, God, may the words of my mouth this day and ever be such as becometh the gospel of peace." Of course, good words mean a good heart. "Out of the abundance of the heart the mouth speaketh." So we may build onto that prayer, "Create within us a clean heart, oh, God!"

I am led to all this by the statement in Gleanings in Bee-Culture that $1,059,565,787 is the annual drink-bill of our people. I hope Gleanings made a mistake. I fear it is all too true. Oh, friends! is there not a terrible pathos in those figures?

A woman comes to our house each week to help us. She has great energy, has marked intelligence, and has a family of bright, winsome girls. She has had a hell of a home. An intemperate husband is her ill—her terrible—fortune. When drunk he is a very fiend, and no one's life is safe. She loved the father of her precious children. Over and over she received him back as the prison-doors unlocked and let him forth as sentence for repeated debauches expired. At last, in sheer despair, she has, with broken heart, sent him forth to return no more. Who of us that have been saved from such woes and anguish, can possibly appreciate the misery and despair of those hearts and that home? Who of us will not say with deeper anguish, We will do even more to drive that anachronism of our day and civilization—the saloon—from our country? And I wish here to speak of one way.

Do we joke at intemperance? Do we laugh and exclaim in merry mood as the poor, besotted wretch passes us by? Or the rather, does our face sober, and our whole demeanor tell of our sorrow and regret for the fallen soul?

Not long since I was in a Los Angeles street-car. At a stopping, we were brought to face a policeman leading a young soldier in soiled uniform, who was staggering drunk. His maudlin utterance and reeling gait caused almost all in the car to laugh, and even jokes were made at this awful sight. I wondered then—I wonder still—how any one could even think to laugh. *A soul on the down grade!* Or how such a scene could suggest the lightsome word. I rode away sorrowing, and have sorrowed ever since when the picture has returned to memory.

Oh, can we not commence so early to impress our children with the horrors of drunkenness, and the awful evils of the drink habit, that they will not only abhor the saloon and all its vile belongings, but will sadden, and sorrow, and speak grave words, at sights such as I have just depicted?

There is another evil greater than intemperance. It is well called "the social evil," as all others sink before it. Yet who has not seen the grimace, and heard the joke even from lips that claimed to be those of Christian gentlemen? Oh! fellow parents, let us pray, study, think, plan, that we may so culture and refine our dear boys and girls that they may ever walk in ways of cleanness and purity, and that they may sorrow with unutterable sorrow as they become conscious of the ruined, hopeless lives that cloud even our American society. And may never help, by look, word, or act, to add to the grewsome company that form the sorest blot on our body politic.

CHURCH-GOING.

I hope there may not be too much sermonizing in this manifesto to our homes. Nearly everybody goes to church here in Claremont. The same is true of Pomona. I have heard it stated that over 90 percent of the Pomonaites, including children, are church-goers. Though Pomona has several thousand people, like Claremont she has no saloon. Church-goers and saloons do not flourish on the same soil.

One of our Claremont citizens is a nice man, and has a nice family. His wife always goes to church. She formerly brought all the children. I often remarked to Mrs. Cook, "Oh! that that man could see his mistake." Later the oldest boy ceased to come with the mother. This summer that boy with two others ran away from home. No one knew where they were for days. There was solid grief in those homes. Would not that father, had he gone to church, given the dear wife the richest of comfort? Would he not have been likely to have received inspiration that would have helped him to say better words and do better things before those bright children? Would he not, more than likely, have prevented that sorrowful episode in the home that all felt to be a disgrace?

Now I notice that the second boy is not coming, and only the little girl keeps the mother company. Here, where nearly every one goes to church, how easy to have kept the boys in church and Sunday-school. We have a model Sunday-school in which splendid men and women in prospective are being beautifully fashioned. I truly believe that if our fathers only knew how much such meetings helped to make grand men and women, as well as beautiful and obedient boys and girls, not to say worthy and excellent citizens, they would soon be found of a Sunday morning leading the family to the house of worship. And, oh! how that would rejoice the yearning, longing heart of the mother.

Two years ago I stepped off the train in the great Grand Trunk depot of Chicago. I had written our friend, Mr. York, that I would come on that train. He had written me that I was to wait till he came. It was in the early evening of Sunday. I waited long. It was not tedious. I never am lonely in such places or at such times. The people, some good book or magazine, always make the hours, like birds, fly by. Later our good friend came. He was just from church, where he and his delightful wife always aid in the worship.

God be praised that the old American Bee Journal has a Christian editor, who fears God and desires above everything else to keep his commandments. This fact makes for the refinement and betterment of every reader of our beloved American Bee Journal.

"WILDWOOD APIARY" OF R. V. GOSS.—See page 418.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

To Our Shippers.

About May 1st last, we removed our business from the buildings 120-122 W. Broadway to larger and more commodious quarters at Nos. 265-267 Greenwich St., and 82, 84, 86 Murray St., and we duly sent to our friends in the trade a notice of our removal. Shortly after we vacated the premises (120-122 W. Broadway,) one Joseph M. McCaul, rented a portion of our old quarters, and hung out a sign, "Hildreth, McCaul Co., Jos. M. McCaul, Prop.," with other large signs to the effect that his business is "headquarters for honey, beeswax, maple sugar and maple syrup."

The mercantile agencies report that Jos. M. McCaul is the sole proprietor of the new business, and that he claims to have paid to one Henry P. Hildreth (who has no connection with our business,) a consideration for the use of his name.

We will not comment upon the act of leasing our old quarters and exposing thereon the sign, "Hildreth, McCaul Co.," further than to state that we have instructed our attorneys to apply for an injunction restraining the said McCaul from using the name of "Hildreth" in connection with his business in any manner whatsoever.

We value highly the good name and business we have established by many years of satisfactory dealing with our friends in the trade, and we therefore send this notice so that you may not possibly confound us in any manner with the so-called "Hildreth, McCaul Co."

Our firm name remains as heretofore, and all our business is carried on at our new quarters—

Nos. 265-267 Greenwich Street,
and Nos. 82, 84, 86 Murray St., New York, N. Y.

Respectfully yours,

HILDRETH & SEGELKEN.

THE MODERN FARMER & BUSY BEE.

EMERSON TAYLOR ABBOTT, Editor.

A live, up-to-date Farm Journal with a General Farm Department, Dairy, Horticulture, Livestock, Poultry, Bees, Veterinary, Home and General News. Edited by one who has had practical experience in every department of farm work. To introduce the paper to new readers, it will be sent for a short time to New Subscribers, one year for 25 cents. Sample copies free. Best Advertising Medium in the Central West. Address,

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The American Poultry Journal

325 Dearborn Street, CHICAGO, ILL.

A Journal that is over a quarter of a century old and is still growing must possess intrinsic merit of its own, and its field must be a valuable one. Such is the

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50 cents a Year. Mention the Bee Journal.

The Rural Californian

Tells all about Bees in California. The yields and Price of Honey; the Pasturage and Nectar-Producing Plants; the Bee-Ranches and how they are conducted. In fact the entire field is fully covered by an expert bee-man. Besides this the paper also tells you all about California Agriculture and Horticulture. $1.00 per year; 6 months, 50 cents. Sample copies, 10 cents.

THE RURAL CALIFORNIAN,
218 North Main Street, - LOS ANGELES, CAL

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BARNES' FOOT POWER MACHINERY

Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey racks, 500 brood-frames, 2,000 honey boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

Address, W. F. & JOHN BARNES,
995 Ruby St., Rockford, Ill.

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POULTRY BOOK FREE, 64 pages, illustrated with 3 mos. trial subscription to our paper, 10c INLAND POULTRY JOURNAL, Indianapolis, Ind

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1901—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog.
M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

Please mention Bee Journal when writing

YELLOWSTONE PARK.

Extended tour, leisurely itinerary with long stops in the Park. Private coaches for exclusive use on the drive. Pullman sleeping and dining cars. Established limit to number going. Escort of the American Tourist Association, Reau Campbell, General Manager, 1423 Marquette Bldg., Chicago. Colorado and Alaska tours also.

Tickets include all Expenses Everywhere

Train leaves Chicago via Chicago, Milwaukee & St. Paul Railway, Tuesday, July 9, 10:00 p.m. 26A2t

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GENERAL ITEMS

Prospects for a Large Yield.

Bees wintered well throughout this country, and are very strong, working on alfalfa and cleome. The prospects are good for a large yield of honey.

The American Bee Journal comes regularly, and is a welcome visitor. W. H. HOUGH.
Santa Fe Co., N. Mex., June 15.

No Nectar in White Clover Bloom.

We have the finest crop of white clover bloom in this section that I ever saw, but there is not a drop of nectar in it, and as this is the only source for a honey-flow at this time the bees are starving. There has been just about enough rain to be seasonable, and plenty of nice, hot, sunshiny days, and it does seem as though everything was favorable, but there is no honey. I would like to ask the reason for this, if any one can tell.

M. D. ANDES.
Sullivan Co., Tenn., June 15.

Queens Galore in One Hive.

On Saturday, June 1, I assisted a neighbor, Mr. Balk, in dividing a colony of bees, dividing them as nearly equal as possible, and moving the queen from the hive to a new stand. Yesterday two swarms emerged from the hive on the old stand, one after the other, each having a queen, and all being in the air at the same time without mixing. Immediately after hiving them he examined the hive from which they came, and took from it *nine* queens, three of which he brought to me. Next.

If there is any bee-keeper who can beat that let us hear from him.

My bees are working on red clover for all there is in it. WM. M. WHITNEY.
Kankakee Co., Ill., June 17.

Honey Coming in Fast.

The prospect is for a good honey crop. I have 48 colonies, and 42 of them have supers on filled with clover honey ready to cap. It is coming so fast that I have two supers on some of them to keep them going. I took off two pounds of comb honey and four gallons of extracted June 16.

Sweet clover will be in bloom in a week or two. H. C. FINN.
Kane Co., Ill., June 19.

An Aged Bee-Keeper.

Two years ago I had 24 colonies of bees. This year I took eight out of winter quarters, and have had two swarms.

I am in my 80th year, and like the Bee Journal very much. CHRIST BLOUGH.
Somerset Co., Pa., June 17.

Black Bees vs. Italians.

I expect to stir up a veritable hornet's nest with what I am about to say, nevertheless here goes:

In looking over the advertisements in Gleanings in Bee-Culture and the American Bee Journal, I can not help noticing that everybody seems to be either rearing Italian queens (and they are always "the best"), or is just about to Italianize common black bees. Now, I wish to make the assertion that the black or brown bee are the best bees for this locality, and for the average person who keeps a few colonies and doesn't pay close attention to them.

In the first place, they always winter better here; and the reason for it is that they have more good, sound, common-sense, and use more judgment, than the Italians, and do not

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.

Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application. BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

Please mention Bee Journal when writing.

A SMALL SNAKE

may go through PAGE 25 wire 58 inch Fence, but no rabbit, chicken, pig, hog, horse nor bull can.

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

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QUEENS

QUIRIN—THE QUEEN-BREEDER—has now on hand, ready to mail, **500** young, long-tongued Red Clover Queens, Golden or Leather Colored.

We have one of Root's best breeders from his $200, long-tongued, Red Clover Queen, and a Golden Breeder which we are told is worth $100, if there is a queen in the U. S. worth that sum.

J. L. Gandy, of Humboldt, Nebr., tells us that the colony having one of our queens, stored over 400 pounds (mostly comb) honey in a single season. A. I. Root's folks say that our queens are extra fine, while the editor of the American Bee Journal tells us that he has good reports from our stock from time to time.

We have years of experience in mailing and rearing Queens. Queens positively by return mail from now on. Prices for balance of season as follows:

	1	6	12
Selected	$ .75	$ 4.00	$ 7.00
Tested	1.00	5.00	9.00
Selected tested	1.50	8 00	
Extra selected tested, the best that money can buy,	3.00		

H. G. QUIRIN,
Parkertown, Ohio.

(Parkertown is a Money-Order Office.)
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QUEENS

Now ready to supply by returned mail. STOCK which can not be EXCELLED !!!
Bred under the **SUPERSEDING CONDITION** of the colony.
GOLDEN ITALIANS, the GREAT HONEY-GATHERERS. They have no SUPERIOR and few equal. 75c each; 6 for $4.00.
RED CLOVER QUEENS, the LONG-TONGUED ITALIANS, which left all RECORDS behind in GATHERING HONEY, $1 each; 6 for $5. SAFE ARRIVAL GUARANTEED.
C. H. W. WEBER, Successor to CHAS. F. MUTH, 2146 & 2148 Central Ave., CINCINNATI, O.
Headquarters for Bee-Supplies. | **Root's Goods at Root's Prices.**
Catalog free; send for same.

BEES WAX We will pay 26c. cash, per lb. for pure, bright yellow beeswax, and 20c. cash, per lb. for pure, dark beeswax delivered here. CHAMBERLAIN MEDICINE CO., Des Moines, Iowa.
27A13t Please mention the Bee Journal.

try to work in such bad weather as the Italians do, consequently they do not dwindle so in the spring, and they rear more brood late in the fall.

In the second place, they will enter a super more readily than the Italians.

In the third place, they cap their honey white, and I believe they build their comb just as clean and straight as any bees.

Fourthly, they are much easier to shake off of extracting-combs.

I commenced buying Italian queens four years ago, and have bought about two dozen in all from that time until now, have only one of the lot left alive to-day, and she is a complete failure. They have had as good a show as the blacks in every respect, and were bought from different breeders, all the way from Texas to the State of Michigan.

If any queen-breeders take exception to this, all right; but I am through buying Italian queens. GEO. B. WHITCOMB.

Linn Co., Oreg., June 13.

Experiences of a Beginner.

Last fall I went to an auction sale where there were a few colonies of bees for sale, and bought one colony for the small sum of $1.00. I wintered them in the cellar with another colony which we got in the woods, keeping the temperature at about 55 degrees.

This spring I went to a bee sale where there were about 45 colonies to be disposed of. I bought the first five at $2.00 each, but when I got them home the next morning I found I had only four colonies and one empty hive.

They are doing very nicely now, and have thrown off five swarms, which we managed to hive in good condition. The first swarm issued June 5.

White clover has been in full bloom for about a week, and red clover is doing well.

I like the American Bee Journal very much. JOHN B. CALDOW.

Winneshiek Co., Iowa, June 17.

Outlook for a Fair Honey Crop.

Last March we moved our bees from Fond du Lac County to Richland County, there being but little bee-pasturage in the former county, and the locality was also overstocked, consequently they have had but two fair honey crops in the past 10 years.

There is a good outlook for a fair crop of honey in Richland County. It has been quite cool all spring, and colonies did not build up very fast, but we are having warm days and nights now, with a little rain about once a week, and there is more clover bloom than there has been in the past two years. Brood-chambers are filled with honey, and the bees are working in the supers. Practically all bee-keepers here are working for extracted honey, we being the only ones working exclusively for comb honey. ALBERT REIS.

Richland Co., Wis., June 18.

Good Report from Michigan.

Michigan is to the front again with a large honey-yield. Last year my colonies averaged 120 sections each of comb, and 15 pounds each of extracted honey—the finest I have ever tasted. And now, notwithstanding the late spring, it bids fair to outrank last year.

I did not remove the winter packing until June 1, on account of the cold weather. The bees had a hard struggle to feed the young brood up to that time. June 3 they cast their first swarm—one day earlier than last year. In just one week this young swarm had seven brood-frames filled with honey and brood, and that without comb foundation being furnished them. To-day they have 11 brood-frames filled, and 30 one-pound sections. The old colony cast the second swarm—larger than the first—on June 13, and has filled 36 one-pound sections besides. My largest colony—that is, it seems to be the most populous—has not swarmed in two years, but it has filled 76 one-pound sections since June 3, and I will put 74 more on to-morrow. I do not know where they procure the honey, as I have not had time to investigate. There is white clover in abundance, but I have failed to see the first bee on its blossoms this year.

I am not using comb foundation this season, but have a much better and cheaper device, which I will describe later.

D. H. METCALF.

Calhoun Co. Mich., June 17.

Weather Hard on the Bees.

I had 18 colonies of bees, spring count, but two of them were very weak, and have since died.

The weather this spring has been the most unfavorable for many years. April came in cold, rainy and cloudy, with only 53 hours of sunshine the whole month. May was a little better, there being only 67 hours of sunshine, and very cold. Apple-bloom first appeared May 21, and May 23 it commenced to rain, and continued cold and rainy, the bees having only one day in which to work on it. The weather has been very fine for the past two weeks, and although I can not see from what source they are gathering, they are storing honey very fast.

I have had only five swarms so far this season, but they are working hard, having just started in the sections.

Basswood is very scarce here, but there are hundreds of acres of raspberry and white clover; also goldenrod in great quantities.

I find many useful hints in the Bee Journal. F. R. WEBSTER.

Cheshire Co., N. H., June 14.

Bees Working on White Clover.

There is an abundance of white clover, and bees are doing fine. We have had only one swarm, but have divided four colonies.

Some of the colonies have the third super nearly full of honey. C. A. FAIRBANKS.

Jones Co., Iowa, June 17.

Bees Rolling in the Honey.

My bees are just rolling in the honey now, and it keeps me busy with new swarms. I have 70 colonies in all. D. E. LANE.

Washtenaw Co., Mich., June 16.

Do Bees Select Their Future Home Before Swarming?

We are all interested in anything pertaining to the habits of our bees, even it it does not have a commercial aspect; and any one having a new fact, or who can explain an old one, is contributing something of value to natural history. Hence, the question of bees selecting their future home before swarming is not altogether without interest. Prof. Cook thinks they always do, and mentions having seen scouts investigating a cornice on a building, and the next day a swarm took possession.

I had the temerity to question the statement that they always select their home before swarming; Mr. O. B. Griffin, of Maine, on page 141, thinks that, "in the majority of cases," they do not. And now comes Mr. D. H. Metcalf, of Michigan, who thinks (page 157) that "first swarms always do—second swarms never," and mentions two instances of seeing "scouts" (as I, being an old soldier, call them) investigating a bee-tree, and one where the swarm actually came and would have taken possession only he had felled the tree. This looks pretty solid, on the face of it, for the affirmative side of the question, and yet it is only what the lawyers would call "prima facie," or first-view, evidence. If Mr. Metcalf had seen the swarm issue, and followed it up to the bee-tree, the chain of evidence would be more complete; but I would ask in this case, as I did in the one mentioned by Prof. Cook, Have you any evidence to show that the swarm was not *already clustered* somewhere at the time the scouts were seen? This will cover the whole point of contention.

I would like to ask the fundamental question, Why does a swarm cluster at all? There would be no need of it if they had already selected their home. Prof. Cook says, "To rest the queen." I can't think the Professor was serious when he made that statement, for if bees have as much sense as they

THOSE
Long-Tongue Adels

BEAVER, PA., April 4, 1901.
From one 3-frame nucleus you sent me I took 213¼ pounds of extracted honey.
WM. S. BARCLAY.

Each Queen, $1.00.
Essay, "How Not to Rear Queens," sent free.
24A4t **HENRY ALLEY, Wenham, Mass.**
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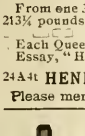

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The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,
GEORGE W. YORK & COMPANY,
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I am Now Prepared

to fill orders promptly for Untested Queens reared from a breeder of the HUTCHINSON SUPERIOR STOCK, or a select GOLDEN breeder, and mated to Golden drones, at 75 cents each; $4.00 for 6, or, $7.50 per dozen.
Money order office, Warrentown, N. C.
W. H. PRIDGEN,
22Atf Creek, Warren Co., N. C.
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BEE **HIVES, SECTIONS AND ALL BEE-KEEPERS' SUPPLIES.**
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Send for circulars regarding the oldest and most improved and original Bingham Bee-Smoker. FOR 23 YEARS THE BEST ON EARTH.
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Bee-Keepers' Supplies.

Just received a consignment of the finest up-to-date HIVES and SECTIONS we've had. They are 2d to none. Complete line of Bee-Keepers' Supplies on hand. Bees and Queens. Catalog free.
THE A. I. ROOT CO.,
H. G. ACKLIN, Manager,
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Sections, Shipping-Cases—Everything used by bee-keepers. Orders filled promptly. We have the best shipping facilities in the world. You will save money by sending for our Price-List. Address, Minn. Bee-Keepers' Supply Mfg. Co., Nicollet Island Power Bldg.,
16Atf **MINNEAPOLIS, MINN.**
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If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.25 to
Prof. A. J. Cook, Claremont, Cal.,
FOR HIS
"Bee-Keeper's Guide."
Liberal Discounts to the Trade.
Please mention Bee Journal when writing.

ALBINO QUEENS If you want the most prolific Queens—If you want the gentlest Bees—If you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.
11A26t **J. D. GIVENS, LISBON, TEX.**
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I am overstocked with hives. Will sell **2000 at prices you can not duplicate.** St. Joe, Dovetailed, Wisconsin, Champion, or Langstroth Simplicity. Ask for prices, and say how many you want. CAN SHIP AT ONCE. CAN SAVE YOU MONEY, NO DIFFERENCE WHERE YOU LIVE. OTHER GOODS AS CHEAP AS ANYBODY. Supply Business for sale cheap. Address,

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Tennessee Queens!

Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3¼ miles apart, and mated to select drones, $1.50 each; untested warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and but few within 5 miles. 28 years' experience. Discount on large orders. Contracts with dealers a specialty. JOHN M. DAVIS,
Spring Hill, Tenn.
6A26t

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Standard Bred Queens.

Acme of Perfection.
Not a Hybrid Among Them.

IMPROVED STRAIN GOLDEN ITALIANS.

World-wide reputation. 75 cts. each; 6 for $4.00.

Long-Tongued 3-Banded Italians

bred from stock whose tongues measured 25-100 inch. These are the red clover hustlers of America.

$1.00 each, or 6 for $5.00. Safe arrival guaranteed.

FRED W. MUTH & CO.
Headquarters for Bee-Keepers' Supplies,
S.W. Cor. Front and Walnut Sts.
Catalog on application. CINCINNATI, O.

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Our Specialty is making **SECTIONS**, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

8A26t **Marshfield Manufacturing Co., Marshfield, Wis.**

Red Clover Queens

LONG-TONGUED BEES ARE DEMANDED NOW.

ONE Untested Italian Queen FREE as a Premium for sending us TWO new subscribers to the American Bee Journal for one year (with $2); or, one Tested Queen free as a premium for sending us FOUR new subscribers with $4.00).

We have arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us the coming season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

All queens guaranteed to arrive in good condition, and all will be clipped, unless otherwise ordered.

CASH PRICES of these fine queens will be as follows: Untested, $1.00 each; Tested, $2.00 each. Send all orders to

GEORGE W. YORK & CO.
144 & 146 Erie St., CHICAGO, ILL.

Please Mention the Bee Journal when writing Advertisers *****

are usually credited with, they would certainly know that a flight from the hive even to the top of a tall tree (possibly from 100 to 300 feet) would not tire an old queen with perfect wings. If swarming bees or queens ever do get tired it is more reasonable to suppose it would be after they had started on their journey to a home, and maybe they do; but to "stop to rest before they are tired?"—well, I can't see the sense in it.

In conclusion, I do not think bees select their future home before swarming, for the following reasons:

First, 99 percent of all swarms cluster a certain or uncertain time before leaving. We have no definite information on the subject, as most observed swarms are hived as soon as possible by the bee-keeper; but in most cases it is from one hour up to 72. Bees fly very rapidly—I think I am within the limit when I say a mile in three minutes. There is ample time for a thousand scouts to explore and report every possible bee-tree within five miles of the cluster inside of an hour. Second, the uncertainty of the time in clustering indicates to my mind the greater difficulty in one case over another, in *finding* the *future home*, and the greater probability that they, like some human beings, do not cross a bridge until they come to it, or do not select a home until there is strong need of it.

This is my view of it. But I'll change my mind any time the weight of evidence is the other way. RIP VAN WINKLE.

Cook Co., Ill.

Drone-Traps.

W. H. Pridgen says in the American Bee-Keeper:

In using the combined queen and drone trap on hives that are sending out objectionable drones, I usually have trouble in separating the queen from the drones in case a swarm issues, without allowing the escape of many drones. This can be overcome by a double or combined trap. There should be a division made of drone-excluding zinc through which the queen can freely pass, with an additional trap with ordinary cone above, to catch the queen. That is, to separate the queen from the drones, we want two traps, one above the other, with the slide in the top of the drone-trap, with perforations large enough for the queen to pass through without allowing the drones to do so.

Cost of Drone-Comb.

Probably the majority of bee-keepers discourage the presence of much drone-comb. Just as probably the majority have a good deal more drone-comb than is profitable. The bee-keeper who has supplied his bees with full sheets of worker foundation is not safe for all future time. Here and there a mouse will nibble a hole in a comb in winter, and by one means and another there will be holes that the bees must fill in, which holes will almost invariably be filled with drone-comb. If no attention is paid to the matter this will increase from year to year, but the bee-keeper perhaps gives it little thought. If his attention is called to it, he will say, "Yes, there is some drone-comb in most of my hives that have comb of any age, but it doesn't amount to much. There isn't an average in each hive of more than enough to fill a pound section."

Let us figure up the cost of a piece of drone-comb of that size—4 inches square, or 16 square inches. Counting 18 cells to the square inch, or 36 for the two sides, 16 square inches will contain 576 drone-cells. Suppose only one brood of drones is reared, and that each drone lives 60 days; what will be the cost of those 576 drones? Taking the estimate that it costs .0141 ounce of honey to rear a drone, and that it consumes .00635 ounce of honey daily, it will consume in 60 days .381 ounce of honey, which, added to the cost of rearing,

makes .3951 ounce of honey that each drone costs. Multiply this by 576, and you have 227.5776 onnces, or 14.2236 pounds of honey that it has cost to rear and support the drones from that piece of comb the size of a ponnd section.

"But," you say, "I don't stand all that expense, for I slice off the heads of the sealed brood every time I go over them, so I stand only the trifle that it costs to rear them."

Suppose we figure ou that. Multiply .0141 by 576, and you have 8.1216 ounces of honey that each slicing has cost you. Remember that this cost has occurred before the cells are sealed; and as fast as you slice off the heads of the brood a fresh lot will be started so long as there is a moderate degree of storing. Suppose you begin slicing June 1, and slice every two weeks, making the last slicing July 13. That will make four times, costing you a trifle more than two pounds. Don't you believe you could go over 25 colonies in a day, cutting out the drone-comb and putting patches of worker-comb in place thereof? That would give you a payment of 50 pounds of honey for the day's work, to say nothing of the saving in future years. *Cut out the drone-comb.*—Gleanings in Bee-Culture.

A New Bee-Keeping El Dorado.

It is in Arkansas, and L. E. Kerr says in the American Bee-Keeper:

The flow begins here the first of April and continues till November. It is not spasmodic, but comes in a slow, steady stream for about seven months, enabling a wide-awake bee-keeper to secure from 100 to 300 pounds of comb honey, of first-class quality, as an average yield per colony.

With a honey-flow lasting seven months many would naturally suppose that the matter of keeping the colonies in shape to do the best work would be no little item; but really all we have to do is to keep good queens and let them alone, and they remain strong themselves, with no swarming except during April and May.

Editor Hill comments as follows:

"From 100 to 300 pounds of comb honey of first-class quality, as an average yield per colony," is truly wonderful. In this day of small yields, it is refreshing to read of such a locality. Mr. Kerr's idea, as to the superior finish and quality of comb honey where the bees have seven months to devote to the work, is something entirely new and quite at variance with the experience of nearly, if not quite, all experienced producers of comb honey. We should decidedly prefer a location where all the finish and trimmings were applied in ten days. It is a magnificent theory, indeed; but we have never learned to admire "a slow, steady stream," when "first-class" comb honey was the object.

Long Tongues and Their Value.

Dr. Miller thinks long tongues may be of value for other blossoms than those of red clover, but that longest tongues are not necessarily best in all cases. He says in Gleanings in Bee-Culture:

Why should it be considered a strange thing that other flowers should have tubes of the same depth as red clover? It is possible that many of the flowers commonly visited for nectar have tubes of different lengths, some of them accessible only to tongues of unusual length, thus giving long tongues the advantage aside from red clover. Again, a flower-tube may be of such depth that only part of its contents can be reached by a tongue of ordinary length, while one a little longer may drain it to the bottom.

Please don't understand that I believe that length of tongue is the only thing to be considered. I should prefer to make selection by noting the amount of stores gathered rather than by measuring tongues. It is possible that, among several colonies, the one with longest tongues may be the poorest. One colony may excel it because of greater diligence. Another may work earlier in the day. Another may excel because of greater longevity. So I think it would have been unwise to depend upon tongue-length alone. But I do insist that the advantage of long tongues has not been proven to be exclusively associated with red clover; and it is possible—not probable, I think—that the gain from other flowers with long tubes may be even greater than from red clover.

Straining Extracted Honey.

Elias Fox gives his plan in Gleanings in Bee-Culture as follows:

I have six large barrels, holding about 600 pounds each, arranged around my extracting-room on a strong bench, with heads out, and molasses-gates near the bottom. Each barrel is supplied with a *fine* cheese-cloth strainer tied securely over the head. I draw the honey from the extractor into an ordinary water-pail, and transmit to these barrels through the strainers. This takes out the minutest specks. It is left in these barrels from one to six weeks (according to the time in the season of extracting), when it is drawn off into 60-pound cans, caps screwed down *tight*, and placed in cases, and securely nailed, ready for shipment. I have practiced this method for the past 18 years, and have never had a *word* of fault found.

UNTESTED

Italian Queens Free

BY RETURN MAIL.

For sending us **One New Subscriber** for one year, to the American Bee Journal, with $1.00, we will send, **by return mail,** a fine Untested Italian Queen free as a premium. This offer

is made **only to our present regular subscribers.**

We will mail one of the above queens alone for 75 cents; or 3 for $2.10.

Please do not conflict the above offer with the one on another page which refers to Red Clover Queens. For sending us **two** new subscribers, and $2.00, we will mail free as a premium an Untested Red Clover Italian Queen.

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See How Simple When a swarm issues cut several of the best cells and put them into **SWARTHMORE FERTILIZING BOXES.** Attach the boxes (6 to 10) to the outside of that hive, and in a few days nearly all the queens will be found mated and laying. Any child can use this device. Sample box, 25c; Swarthmore Nursery Cage, 75c; Golden all-over-Queens, $1.
SWARTHMORE APIARIES,
E. L. PRATT. SWARTHMORE, PA.

Please mention Bee Journal when writing.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, June 19.—New comb honey has not yet reached this market. It would sell at 15@16c if choice white, and for amber as much as 12@13c. The market is entirely bare with exception of a few cases of a lot that we had held for us, expecting it would be needed. Advices are that shipments will be started by July 1. Very little trading is being done in extracted, as large dealers will not contract this season unless at low figures; some sales of amber have been made at 4½@5c for early autumn delivery; white is held at 5½c. Beeswax sells at 30c.
R. A. BURNETT & Co.

CINCINNATI, May 17.—No demand for comb honey, also stock of it well exhausted. Extracted very dull; sales are more or less forced; lower prices from ½ to 1 cent per pound.
C. H. W. WEBER.

BOSTON, June 14.—There is practically no comb honey in our market, and owing to warm weather very little call for it. Are expecting some new comb early next month. Market for extracted dull, at 6½@7½c.
BLAKE, SCOTT & LEE.

OMAHA, May 1.—Comb honey, extra white, 24-frame cases, per case, $3.40; No. 1, $3.25; amber, $3.00. PEYCKE BROS.

NEW YORK, June 1.—Extracted honey is exceedingly dull and very little moving. We quote for the present: White, 6½@7c; light amber, 5½@6c; amber, 5@5½c. Some demand for comb honey at unchanged prices. New crop is now beginning to arrive from the South, and sells at from 12@15c, according to quality and style. Beeswax, 29c. HILDRETH & SEGELKEN.

ALBANY, N. Y., June 18.—Honey market is dull with no receipts or stocks and little demand. It is between seasons now. Prospect of good crop in this vicinity from what bees there are left, the greater portion having been killed by foul brood exterminators. H. R. WRIGHT.

DETROIT, June 24.—Very few sales of honey, but prices are well sustained on good lots. The new crop will start out at good prices, and with little old honey to interfere. Beeswax in fair demand at 27@28c. M. H. HUNT & SON.

BUFFALO, June 26.—Honey not wanted till cool, fall weather. Little old honey here and dragging, 6@10c. Extracted not wanted. Fruit takes place of honey now. BATTERSON & Co.

KANSAS CITY, June 14.—Very little old honey on our market but what is damaged by being granulated. Sales are light at 15 cents for best grade No. 1 Colorado. Amber, 13c. Beeswax firm at 25@30c.
W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

SAN FRANCISCO, June 5.—White comb, 11½@12½ cents; amber, 9@10c; dark, 6@8 cents. Extracted, white, 5@6c; light amber, 4@4½c; amber, 3½@4c. Beeswax, 26@28c.

Dealers are very bearish in their ideas, but are not securing much honey at the prices they name. In a small way to special trade an advance on quotations is being realized.

At the Pan-American

I can accommodate five or six persons who wish to attend the Pan-American Exposition. Rates reasonable. Good car service half a block away. If any wish to engage rooms in advance, address,
M. RICKARD,
254 Dodge Street, BUFFALO, N.Y.

[Mr. Rickard is a bee-keeper, and will take good care of his patrons.—EDITOR.]

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Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.

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BEES, QUEENS,
and Belgian Hares ....

We have some choice stock for sale at the following prices:

One Untested Queen	$ .60
One Tested Queen	.80
One Select Tested Queen	1.00
One Breeder	1.50
One-Comb Nucleus, (no Queen)	1.00
One Pair Belgian Hares	3.00

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ITALIAN QUEENS, warranted

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RIVER FOREST APIARIES,
21Atf RIVER FOREST, Cook Co., ILL.

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To say to the readers of the BEE JOURNAL that

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has concluded to sell QUEENS in their season during 1901, at the following prices:

1 Untested Queen	$1.00
3 Untested Queens	2.25
1 Tested Queen	1.25
3 Tested Queens	3.00
1 select tested queen	1.50
3 " " Queens	4.00
Select Tested Queen, last year's rearing	2.50
Extra selected breeding, the very best	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

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24th Year Dadant's Foundation. 24th Year

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Why does it sell so well? ✻✻

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Very fine pure-bred **BARRED PLYMOUTH ROCK** Chickens and Eggs for sale **at very low prices.**

Langstroth on the Honey-Bee—Revised,
The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

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A Bee-Keeper's Paradise.

En route to El Paso.—I have just come from a county about 40 miles square that has more bee-keepers to the square mile than any other locality of its size I ever visited. The inhabitants talk bees at the hotels, on the streets, and everywhere, just as farmers talk crops and business in the North. This county produces more honey than any equal area, I believe, in the United States. Some say that its yearly output is a *whole trainload of honey;* but many aver that this is too low, and that two whole trainloads would come nearer the truth. Of course this great amount doesn't go all in one lot, but in large and small shipments.

The average per colony is high, and there is a honey crop every season. It is estimated that in this one county, outside of the towns, nearly one-half the population are bee-keepers.

The great bulk of the honey is of the very finest, and some of it is literally water-white. There are thousands and thousands of acres of honey-plants on cheap land; and bees—there are not enough to gather it all.

The bees commence swarming early in the spring; and, *when the main honey-flows commence, actually stop swarming,* destroy cells, kill off the drones, and commence business. Did you ever hear the like of it before? You say, "No, and no one else." Well, I think I can prove every statement; but for the present I am not at liberty to give the place or other details; but very shortly I'll tell the whole story, with some fine pictures.

This is only one of the good things in store for readers of Gleanings in Bee-Culture. Send 15 cents for three months' trial or 25 cents for six months' trial, or $1.00 for one year and one untested Italian Queen. Send $2.00 and we will send Gleanings one year and one of our Red Clover Queens. Speak quick if you want one.

THE A. I. ROOT CO., Medina, Ohio.
(U. S. A.)

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor

CHICAGO, ILL., JULY 11, 1901.

FORTY-FIRST YEAR
No. 27.

WEEKLY

W. W. WHIPPLE, HIS APIARY AND KINGBIRD DESTROYER.—(See page 434.)

THE AMERICAN BEE JOURNAL.

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DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

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OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

HOT WEATHER HINT.

"Hot weather? yes: but really not
Compared with weather twice as hot.
Find comfort, then, in arguing thus,
And you'll pull through victorious:
For instance, while you gasp and pant
And try to cool yourself—and can't—
With soda, cream, and lemonade,
The heat at ninety in the shade—
Just calmly sit and ponder o'er
These same degrees, with ninety more
On top of them, and so concede
The weather now is cool indeed!"
—J. WHITCOMB RILEY.

MR. C. A. HATCH, writing us June 22, had this to say:

"We had poor luck in wintering bees the past winter, so we have not an extra-large force of honey-gatherers. I think fully 50 percent of the bees in this part of Wisconsin are dead. My own loss was about 30 percent—the heaviest for many years. We hope for better luck next time."

DR. A. B. MASON, secretary of the National Bee-Keepers' Association has been appointed judge of the bee and honey department of the Ohio Exposition, which will be held at Columbus next month. A total of only $74 is to be awarded in that department, so the Doctor ought not to have a very long or hard job.

The Doctor wrote us, July 1, as follows about his bees:

"No honey from the world of white clover we have, but sweet clover is getting nicely in bloom, and the bees are busy on it. We have colonies with two, three, and three and a half stories, to give room to the bees, and running over at that, and no disposition to swarm."

MR. W. W. WHIPPLE and his apiary, of Arapahoe Co., Colo., are shown on our first page this week. Mr. W. is a native of Michigan, and in his boyhood days learned the printing business. He drifted into western Iowa in the early fifties, and went to Colorado in 1859, during the Pike's Peak gold excitement. He has worked as printer, job printer, miner, and lastly as a bee-keeper, and will probably follow the latter occupation the remainder of his days.

Mr. Whipple has met with varied success in bee-keeping, but is fairly well satisfied, although he says the bee-keeper has no picnic in Colorado. He must be constantly on his guard to keep clear of that pest—foul brood. When he first went to his present locality there were many farmers who had a few colonies of bees, and when a colony died they would not know the cause, or even that it was dead (and in most cases it was foul brood that killed it), until the colony was robbed of its stores, and they were spread far and near, making trouble for the bee-keepers. Bee-keeping there would be a pleasant and profitable business were it not for this, so Mr. Whipple says.

They are expecting a good alfalfa honey season this year, as the crop of alfalfa is very forward and seems likely to bloom abundantly. He expected the flow to be on about June 20, when there would be busy days, and the "hum of the bees in the alfalfa bloom" could be heard on all sides.

(Exact size of the Pen.)

FREE as a.... Premium

A Foster Stylographic PEN....

This pen consists of a **hard rubber** holder, tapering to a **round point**, and writes as smoothly as a lead-pencil. The **point** and **needle** of the pen are made of **platina**, alloyed with **iridium**—substances of great durability which are not affected by the action of any kind of ink.

They hold sufficient ink to write 10,000 words, and **do not leak or blot.**

As they make a line of **uniform width** at all times they are **unequaled for ruling purposes.**

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The Bee-Keeper's Guide;

Or, Manual of the Apiary,

—BY—

PROF. A. J. COOK.

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A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book published to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipped, or his library complete, without THE BEE-KEEPERS' GUIDE.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

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Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let every body try for it. Will YOU have one?

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., JULY 11, 1901. No. 28.

Editorial.

Are You a Member of the National Bee-Keepers' Association? If not, you should be. But perhaps you would like to know more about it before becoming a member. If so, write to the general manager, Mr. Eugene Secor, Forest City, Iowa, for circulars explaining the objects and work of the Association.

You will remember that last week we began the effort to secure a membership of an even 1000 by the time of the Buffalo convention, in September. Send in the dollars for dues, so we can begin to publish the list of names. We want to receive over 200 during July and August.

Are you a member of the Association?

The Buffalo Convention.—We have received the following notice and information in reference to the next meeting of the National Bee-Keepers' Association at Buffalo:

STATION B, TOLEDO, OHIO, July 1.

MR. EDITOR:—Please say in the American Bee Journal that the next convention of the National Bee-Keepers' Association will be held in the Lecture Room of the Buffalo Society of Natural Sciences, on the 10th, 11th and 12th of next September, commencing on the evening of the 10th. The place of meeting is in the Buffalo Library Building, corner of Washington and Clinton Streets, near the business center of the city.

Railroad rates will vary in the different passenger association territories from one cent a mile each way to one and one-third for the round trip. Each one can readily learn the rate on enquiry at his or her railroad station.

The Buffalo bee-keepers will try to provide entertainment at reasonable rates for all attending the convention who will notify Mr. Sidney S. Sleeper, Holland, N. Y., by Sept. 2. In a letter recently received from Mr. Sleeper, he says:

"We want all who can to come, for we wish to make the Buffalo meeting the most pleasant and instructive one that was ever held in America. We will have the co-operation of all the sciences, as well as the school board; then he names some professional men who are interested in our specialty, and will be at the convention to help; and a long letter from Mr. Hershiser closes by saying, "Call upon me for whatever further assistance I am able to render;" and Mr. Penton, an ex-president of the Erie County Bee-Keepers' Society, and others, have promised to do all they can to provide for the comfort of the delegates.

As stated in my previous convention notice in the American Bee Journal, there will be no fixed program, and no papers, the time being fully occupied in asking, answering, and discussing questions, except that on the evening of the 12th there will be a joint session of our Association and the American Pomological Society, to disscuss "The Mutual Relations of Bee-Keeping and Fruit-Growing," and Prof. Beach, of the New York Agricultural Experiment Station, and Prof. Fletcher, of the Central Experiment Farm of the Dominion of Canada, will help talk for the bees at that session. It is hoped that much good will result to fruit-growers and bee-keepers from this joint session.

If any bee-keeper who can not attend the convention has any questions he would like to have answered at the convention, will send them to me, I will see that they are presented. I made this same request in my previous convention notice in your journal in April last, and perhaps you'll remember of writing me to the effect that with such a request in all the bee-papers I would be deluged with questions, and in the last week's American Bee Journal you talk very nicely editorially on the same subject, and still I've not received a single question, except about 20 I've sent myself, and I have several more in my mind that I'm going to send to the secretary.

A. B. MASON, *Sec.*

In-Breeding, as treated by C. P. Dadant in this journal, seems to puzzle Deacon Hardscrabble, a bright writer who has suddenly appeared in the horizon of the American Bee-Keeper. He is confused at the two statements that nature abhors in-breeding, and that "in *natural* conditions a colony may be several miles from other bees and probably requires all the drones that it may produce." You didn't notice that "may be," Deacon. You know there are exceptions to all rules, and nature doesn't in all cases find things to her liking. She'll remedy that by planting a colony at next swarming-time between the two distant colonies, so that the drones can pass the distance between.

Several Laying Queens in One Hive.—Swarthmore says in Gleanings in Bee-Culture that the secret of success in having several laying queens kept throughout the season in one hive, lies in the giving them all at one time to bees that have been queenless for but three days. "An indefinite number of queens may be confined in boxes or cages arranged in such a way that none can come in contact, yet allowing the bees freedom to go and come, to do as they will."

Watercress Honey.—W. A. D. Pern reports in the British Bee Journal that he gets quite a quantity of honey of very good quality from watercress bloom. He says the bees store very fast from this source, and will fill a super in a few days. We have never heard of watercress yielding honey in this country. Perhaps some of our readers can report on it. We understand that watercress is shipped to Chicago by the barrel, being used as greens.

The Illinois State Fair premium list for 1901 is now issued. A copy of it can be had by addressing W. C. Garrard, Secretary, Springfield, Ill. It will be the 48th annual exhibition, under the auspices of the Illinois State Board of Agriculture.

Under the heading, "Bees and Honey," we find the following list of premiums offered, which are "open to the world:"

	1st prm.	2d prm.	3d prm.
Display of comb honey	$20	$15	$10
Collection of labeled cases containing 12 or more pounds of white honey from different flowers	8	5	3
Collection of labeled cases containing 12 or more pounds of amber or dark honey from different flowers	8	5	3
Case white clover comb honey, 12 to 24 pounds	4	3	2
Case of sweet clover comb honey, 12 to 24 pounds	4	3	2
Case basswood comb honey, 12 to 24 pounds	4	3	2
Display extracted honey	20	15	10
Honey extracting on the grounds	5	3	2
Frame of comb honey for extracting	5	3	2
Display of candied honey	20	15	10
Display of beeswax	15	10	5
One-frame observatory hive dark Italian bees	4	3	2
One-frame observatory hive Golden Italian bees	4	3	2
One-frame observatory hive Carniolan bees	4	3	2
Honey-vinegar, 1 gallon, with recipe for making	4	3	2
Display of designs in honey or beeswax	12	8	6

The judges will be governed by the code of rules adopted by the Illinois State Bee-Keepers' Association.

500 pounds will receive full score for quantity in displays of comb and extracted honey, and 300 pounds in displays of candied honey. 50 pounds will receive full score for quantity in display of beeswax.

Only one entry will be allowed by each exhibitor for any one premium.

There is over $300 offered to bee-keepers in the above list. For some years there have been very creditable apiarian exhibits at the Illinois Fair, and we trust that this year will be no exception. All who can possibly arrange to do so, should begin to plan to make an exhibit.

The State Fair will be held at Springfield Sept. 30 to Oct. 5.

Hot Weather for Honey.—Editor Root says that in the Salt River valley, Arizona, the bee-keepers want the heat to be from 95 to 110 in the shade to get the best results in honey storing. When the temperature is below 90 there is quite a perceptible decrease in the inflow of honey. "Apparently," he says, "the Arizonians want more heat than we of the North. Yet the hottest days, *and the hottest nights*, seem to be the best in the North for a big flow."

Contributed Articles.

Storing Comb Honey and Surplus Combs.

BY C. M. DOOLITTLE.

A CORRESPONDENT wishes me to tell, through the American Bee Journal, how I would fix for storing comb honey and surplus combs in some building already on a new place he has just moved to, he wishing to make what changes are necessary. As I quite frequently have this question or similar ones asked, I will gladly comply with the request.

For a honey-room the first thing necessary to know is that there is a good foundation under that part selected for the room, and sleepers of suitable strength, so that should we happen to place several tons therein, there will be no danger from breaking down. Knowing this, the next thing is to make the room mouse-proof. This I would have, let it cost what it would, even if I had to line every inch of it with tin, for the filth from vermin about honey is not to be tolerated at all. Having the room mouse-proof, all that is necessary afterward is to be sure the door is kept shut when not in use.

It is better to locate this room in the southwest corner of the building, and paint the outside of the two walls which come next to it, black, or some very dark color, so that the rays of the sun may be so absorbed as to heat the honey-room as much as possible, as the hotter and dryer the honey can be kept, when off the hives, the better it will ripen and keep afterward.

The door to the room should be on the side nearest the general entrance to the building, so as to save as much travel and lugging as possible. Then there should be two windows in the room, one on the south and one on the west side, which are to be opened on warm, dry days, so as to ventilate thoroughly the room and pile of honey. Over these windows, on the outside, is to be placed wire-cloth, so the windows can be left open at pleasure, without any fears of robber-bees. To let the bees out, which may chance to come in on the honey or in any other way, let this wire-cloth run eight or ten inches above the tops of the windows, nailing on strips of lath, or other strips ⅜ thick, so as to keep the wire-cloth out that far from the sides of the building, thus giving space for the bees to crawl up on the cloth to the top when they are on the outside. With me, no robber-bees ever think of trying to get in at this entrance, their efforts being directed toward the open window, where the fresh scent of the honey comes, and, by so fixing, your room is kept clear of bees, flies, and other insects all the while.

In hanging the door for this honey-room, do not make the mistake that some do, of having it swing into the honey-room, for if you do you will regret it some year when you have a bountiful crop of honey, as it will be greatly in the way at such times, and more or less at all times. Let it swing out into the main building, and hang it so that when you wish, it will swing clear around against the side of the room, thus being entirely out of the way.

On either side of the room fix a platform for the section honey, which should be at least six inches above the floor. This platform should be built nearly as solid as the floor has been, and should be so arranged that the air can circulate up between and around each section or tier of sections. Or if you store the honey away in the supers, then, no matter what style of super you may use, this platform is to be so arranged, that each super is separated from its neighbor an inch or so at the bottom, top, and all around, so that the air can circulate all through and all about the honey, thus curing and ripening it thoroughly. Many fail here, and after working hard to produce a crop they let it deteriorate from one to three cents a pound in not properly caring for it after taking it from the hive. And not only that, but such poor honey generally bought cheaply, injures the market to quite an extent for others. When fixing it costs little more to have it so your crop is always growing better, instead of becoming of less value, and after once fixed, the labor required for universally sending off a good article is not so great as it is to fix up that which has partly spoiled after its production.

Then you wish your honey stored and piled as above, so that the fumes of burning sulphur, or something of a similar nature, can penetrate the whole pile, should it be necessary to fumigate on account of the larvæ of the wax-moth being liable to injure it. Don't be afraid of a little extra work or expense in fitting up this room, for on it hangs as much of your success as the producer of fine comb honey, as on any part of the pursuit.

And now about the room or closet for all frames of comb not covered by the bees, or not in use in the hives. In some convenient place, on one side of the building, spike on 2x4 scantling, just as far apart as the top-bar of your frame is long, using as many of these as you think you will ever have use for. Now nail strips of stuff, 2½ feet long by five inches wide to these studding, letting them stand out into the room in a horizontal position. Let the distance between each strip from top to top be two inches greater than the depth of your frame, so as to give sufficient room to manipulate the frames handily. Three inches from the ends of these strips run a partition clear across the space occupied for the purpose of storing these combs, which partition is to have close-fitting narrow doors placed in it, spaced so as to be most convenient. Close up the ends, and see that top, bottom, ends and sides are as nearly tight as possible, so that in fumigating there shall be as little waste of the gases as may be.

Now hang in the combs whenever you have any not occupied by the bees from any reason, and see that all combs not in use are in their place, and not lying about somewhere else. As often as any signs of worms are found, put in a pot of burning sulphur, close the doors, and the work is done.

Onondaga Co., N. Y.

Is a $200 Queen a Fake?—Queen Values.

BY DR. C. C. MILLER.

ON page 391, G. M. Doolittle has gone beyond anything I have seen in print in showing that there may be justification in placing a very high price upon a queen. Granting his premises, the extra 10 pounds of honey and the 4,000 queens, it is hard to get away from his conclusion that "we have $3,750 as the worth of that queen."

Coupled with that is a repetition of the strong intimation on page 293 that the A. I. Root Co. are in the fake business when they advertise that they have a $200 queen. Mr. Doolittle refers to it as being like the work of a fakir, and says a fakir is a "street vender." Looking at the dictionary I find that a *f-a-k-e-r* is a street vender, and a *f-a-k-i-r* is "one who originates a fake, humbug, or swindling contrivance." Mr. Doolittle's line of argument is somewhat hazy, but clearly discernible through the haze is the intimation of dishonesty on the part of the A. I. Root Co.

Mr. Doolittle makes the rather strange assertion, "There is no *value* in a *dollar*." If that be true, then there is no value in $200, and he should hardly find fault with attaching to a queen a price of "no value." But he seems to object to a queen "having only a dollar-and-cent value attached to her," and says, "the simple saying that this queen 'is worth $200' without any qualification.... expresses no value, save that which comes from the wear and tear of the lungs doing the hawking." Elsewhere he says, "But not to appear as a fakir, we should know that the queen has *real value* in the work accomplished by her bees and those from her queen daughters, putting that *work* out to the world as her real worth, rather than saying that 'we value her at so many dollars.'"

It is not entirely clear just what it is to which Mr. Doolittle is making objection, but it sounds a little as if he were objecting to placing upon an article a value in dollars and cents. Surely he can hardly object to a thing which is absolutely necessary to the transaction of business, and without which the wheels of commerce would stand still. Mr. Doolittle himself puts a dollar-and-cent price on the queens he sends out. O. L. Hershiser told me he got a queen from Mr. Doolittle that Mr. Doolittle said was worth $50 to a breeder. What wrong was there in that? The dollar is the unit of value, and there is no other way by which he could in so few words express the value he placed upon that queen than to say how many dollars she was worth. And if it was right for him to say she was worth $50 because her progeny were beautiful (I saw them, and they were beauties), is it wrong to say another queen is worth $200 if she really possesses such value? Again, on page 380 of the American Bee Journal, H. G. Quirin advertises a Golden Breeder from Doolittle, saying that Doolittle says, "If there is a *breeder* of golden bees in the U. S. worth $100,

this one is worth that sum." Notwithstanding the condition attached, there is the value "at so many dollars."

There seems no impropriety in the universal custom of naming values in dollars and cents, the only question being whether the article is really worth the price named. The fact that some one else may lyingly say he has a queen worth $1000 when she is not worth one-tenth of that sum, although it may have some bearing upon the policy of the case, has none upon its honesty, and it is the honesty rather than the policy of the A. I. Root Co. against which Mr. Doolittle is training his guns.

If he thinks $200 is too large a valuation for the queen in question, he has a right to say so, and to show cause why it should be lowered. That valuation appears to be based upon length of tongue and increased harvests. Taking Mr. Doolittle's figures and using a simple proportion, we have $3,750 is to $200 as 10 pounds is to 8½ ounces. So according to Mr. Doolittle's estimate, if 4000 queens are reared from the queen in question, and one out of four of them makes an increase of a little more than half a pound in the annual harvest, then $200 is none too high a valuation to place upon such a queen. McHenry Co., Ill.

Co-operation—What it Has Accomplished for Our Bee-Keepers.

Read at the Longmont meeting of the Colorado State Bee-Keepers' Association, April 30, 1901.

BY W. L. PORTER.

I PRESUME there are few bee-keepers present who have not been thinking of a plan by which we may sell our honey and buy our supplies in a co-operative way. The fact that we are so far from markets in the East, where our honey is to be sold, makes it quite necessary that we should sell our honey in a combined way. Freights are so high that we must ship our honey in car-load lots.

Over two years ago the State Association called a special meeting for the purpose of organizing a co-operative association. On investigation it was found that, to do business under the statutes of Colorado, it was necessary to form a stock company. Hence the bee-keepers organized themselves into a stock company with a capital of $10,000, a share being $10. It was voted to name this "The Colorado Honey-Producers' Association." A constitution and by-laws were adopted and the Association was incorporated in January, 1899.

Before co-operation was entered into, the tendency was for the price of honey to be lower each year. For ten years I have noticed this to be the case, so that in 1897 I was compelled to sell my crop of fine honey at $1.70 for 24-pound cases. At this time the Denver Bee-Keepers' Association decided that something must be done to better this condition. We advanced a small sum of money and one of our number opened a correspondence with parties in the East. At the same time we pledged our honey, provided we could get the purchaser to come on and examine the honey and pay cash on delivery, if satisfactory. We were successful in getting buyers to come on and we sold our honey in the far East at better prices than we could otherwise have realized.

The Colorado Honey-Producers' Association, upon opening for business, found it a difficult task to get the honey together, as it was very much scattered through the country, and we at once saw that it was necessary to have a warehouse, and a room was rented. The first year, the manager was at the wareroom two days in a week to receive the honey, and it was brought and placed on deposit, a receipt taken for the same, and the honey was kept fully insured. There was some opposition from the commission-houses, as they thought we would have all the honey-business and leave them out. But at present they are very friendly, as they say the price of honey is more stable since we have organized. They see that it is a real convenience; when they have a jobbing order to fill, they know where they can get the honey to fill it, and can see the honey displayed, and get just what they want.

At this time it was hard to make many of the bee-keepers understand that it would be to their advantage to sell through the Association. They were also skeptical as to receiving any rebates.

Perhaps it would be well for me to explain here that at the first meeting of the Association, it was voted that one-half of the dividend should go to the stockholders, and the other half to be divided pro rata per case of honey. This was found to be an unjust division as some of the stockholders did not sell any honey through the Association. Yet when the adjustment was made the man who had a ten-dollar share got $8.50 dividend. So at the annual meeting, 1900, the by-laws were changed so that Sec. 10 reads:

"Any surplus money accruing over and above the expenses of the Association shall be divided as follows:

1. A dividend of one dollar shall be paid on each share of stock issued.

2. All surplus honey remaining after said dividend has been declared shall be rebated to the stockholders in proportion to the amount of commission paid by them during the year, said dividends and rebates to be paid only to those who have become stockholders previous to August 1 of the year in which surplus accrues."

As you will see by this plan, it is to the stockholder's interest to sell as much of his honey crop through the Association as possible, as by so doing it would not only increase the volume of the Association's business, but also insure him a large share of the rebates. As a consequence, the past year's business of the Association was greatly increased and the rebates covered nearly all the commission charged, so that the members had their honey stored in a proper place where it was always on display, insurance was carried on the honey while in storage, and the honey was sold and loaded on the cars, the money collected for it, and all of this was done at an expense of only one-tenth of one percent to the stockholder. This proved very satisfactory to the members. It was also satisfactory to the buyers, as it is better for them to have the honey stored where it can be displayed and they can see it before buying. It saves them time and expense in canvassing the country to buy the honey, and when the honey is stored at the railroad it can be easily loaded at short notice.

The producer is benefited in another way. When a buyer comes here he is at an expense of at least $10 per day, and that must be paid by the bee-keepers.

Our difficulties have not been with competitors or in finding market for honey, but to inspire faith in the doubting bee-keeper. Instead of its being hard to find a market for the honey, it has been hard to get the honey to fill the demand created. But the two years' business has given us confidence. I don't know of a single member who has given his patronage, that would wish to sell outside another year. Of course we must take into consideration that last year was very favorable for us. Honey was scarce in most sections, and we may have years when it will take the whole ten percent commission to run the business. But should we have an unfavorable year, there are still great advantages in associated work. Buyers, when honey is cheap and plenty East, will not come here as they did last year. But if we are organized we can take our honey East and lay it down in the market at whatever price the producer is receiving. We are on an equality with him, and the rare excellence of our honey is in our favor.

I have now given you a brief history of the workings of the Colorado Honey-Producers' Association. I wish now to point out the possibilities of co-operation, and the obstacles in the way. As to the possibilities, I believe we can find a market through the Association for all honey except that which is required to fill our local demands. Each bee-keeper should try to encourage home consumption, and sell as much in this way as he can, at the same time holding up the market. After that is done, he can market his remaining crop through the Association cheaper than he can do it himself. This has been my experience. In past years it took a good deal of time to deliver in small lots to my customers, and very often I had to stop in the midst of urgent business to deliver a single case of honey. Trade is exacting and must be attended to. Now I deliver to the Association, have no more bother, and receive a better price. This can be true of every bee-keeper in the State. To illustrate this I wish to give you an example: Lately, a bee-keeper in a remote place, wrote us that he had a large amount of comb honey. He had sent agents to Denver several times, and they could not place the honey. He finally put it in our hands. By the time the honey reached Denver, it was sold in the East at good figures, and the draft was on deposit at the bank in Denver to pay for it. This I consider quick work.

I wish now to point out some of the difficulties: It costs money to do this work. To go into the office you will see on file hundreds of letters that have been promptly answered, telegrams and long-distance telephone messages that have been expensive. We issue, also, a crop report. We receive bulletins, posting us on the crop of honey from Colorado, Utah and Arizona. This report is paid for. Money, money, is what it takes to carry on business. We

seem to have some members who do not understand this, and more that are not members that don't understand it. They come to us like this: What are the prospects for honey this year, and what is the condition of the market? I have a crop of honey to sell. I wish to co-operate with you. I wish to sell my honey myself. I don't wish to undersell you. What price shall I hold at?" All this information he comes for has cost the Association hard money. But wherein does he co-operate when he does not offer a cent for this valuable information?

The question that is to come before you is, "How can we organize throughout the State and make an equal and just distribution of expense to all concerned?" To make co-operation a success, *all* must co-operate, otherwise there is friction. To have a successful, intelligent and just co-operation throughout the State, there should be a certain office with a manager in charge who will find out, first, the supply of honey throughout the country, so as to know the condition of the market. He should then be posted on the amount of honey we have in our Association. He is then in shape to negotiate in different parts of the East so as to sell at the best possible advantage.

Now that we have the central office working, we will proceed to organize local associations, which are to be a part of the main association. This local association shall have an office the same as the main one; shall also have a management to correspond with the main office. He shall receive all the honey and see that it is properly graded and classified. He should ascertain how much each member has, and report the same to the general office as soon as possible. The manager of the local point should rent a place for storage and should send a printed notice to each member, saying on what day or days of the week he will receive the honey. Then on the designated days (say Friday and Saturday) he can be there and take the honey. One day in the week will make the expense light, and in small towns storage can be rented quite cheaply.

When the honey is ready he should see to loading the car and billing it out. All this to be done under instructions from the general manager. This expense of rent, salary, insurance and of loading should be paid from the general office.

The freight from all points in Eastern Colorado is the same, hence all will pay to the central office the same percent for selling the honey. That is, the general office pays all expense for storage, salary, etc., and the producers in all parts of the State pay the same for handling. To be sure to have all expense paid, we will say we make the commission ten percent. Then at the annual meeting in January, we have the business summed up and a rebate declared to each member, proportioned according to commission he has paid. This will be absolute justice to each member, and if our local association has only a part of a car it can be loaded and shipped to the association in the next town. In such a case, there is a charge of five dollars for switching the cars; this to be paid by the local association that has only part of a car, and in case each town has only a part of a car this expense should be borne equally by them.

Co-operation carried on in this way will enable the general manager to do all the corresponding with parties East, and perhaps sending a few telegrams. Unless there is harmony among the local associations, such as I have described, there must be friction, the same as we had when selling as individuals. Buyers will take advantage of this and we lose the good that should come through co-operation.

So far, I have not touched on the supply business. This can be managed the same as the honey. If local points wish part of a car, they can have the car so loaded at the factory, that part can be discharged at one station and part at another, and pay a little extra to have the car moved to the next point, and parties at this point should pay the extra charge. I would also suggest that the local managers be directors and should meet in conjunction with the board of directors, elected by the Association. The membership fee of the local association should be the same—ten dollars. This should go to the State Honey-Producers' Association. Each division should be known by letter, as, for an illustration, Longmont, Division A; the next locality that organizes, Division B. Such an organization throughout Colorado will enable us to do business in a very intelligent way. The expense for negotiating the sales of the whole crop done through one head will be but very little more than for a part of the crop. The price can be maintained because we are not selling against each other. The larger we can make our Association, the more widely will our influence be felt throughout the country.

We soon would be a concern that would be known by every buyer throughout the land. We would be a powerful factor in selling honey in our own State, as we would have strength enough to push our products into the most remote parts of it. We would classify our honey and have a brand, which, when established, would be always called for, as people would know exactly what to order, and would know that the honey would be the same each time.

I hope that we may have an organization that will be patronized by all. It is surely true that an organization of this kind will benefit every bee-keeper that produces a pound of honey to sell, whether he supports the organization or not.

No. 7.—Practical Lessons for Beginners in Bee-Culture.

BY J. D. GEHRING.

(Continued from page 408.)

MR. BOND drove into our yard the next morning while we were yet at the breakfast table, and proceeded to unhitch his team without waiting for an invitation. Hastily excusing myself to my family, I went out and found him tying his horses at the watering-trough, about 50 feet distant from his wagon. As he came to meet me he began the following explanation:

"I'm on hand earlier than you expected, you see. Well, when I got home last night and explained things about my all-day's absence my wife laughed and told me that she and Harry had done some bee-business, too. 'The little fellow,' she said, 'while playing in the grove, found a large swarm of bees hanging to a limb of a small tree; and we hived it.' Well, when I went to look at it the idea came into my head like a flash, that the best thing for me to do with that swarm would be to bring it along with me this morning and get you to put it into one of your hives for me. Then I could take it back home with me in the evening. There it is," he concluded, pointing to the wagon. "I tied it up in a sheet to keep the bees in the hive. But some of them got out in spite of my precaution.

"I expected they would attack me and the horses, but they didn't; they just flew around about the hive, and somehow managed to keep up with the wagon till I got here. But, you see, more and more kept coming out. That's the reason why I was in such a hurry to get the horses unhitched."

"That's a new idea of yours, Mr. Bond," I replied. "But I'm thinking that the scheme will not work out as you have planned, because I have an idea of my own about it: I'll furnish the hive and tell you what to do, but I shall expect you to do the work of transferring the bees. First, however, it will be proper to put your horses in the stable, for the job will have to be done right here; or near by, at any rate.

"You see, Mr. Bond," I continued, seeing by a look in his face that he did not approve of my plan, "if we carry that bundle of yours over to the apiary and you do the transferring there, all these bees here that are flying around where they know the hive to be, will be lost to the swarm, because we can't make them follow us. That loss you can't afford, for, as you see, there are now several thousand outside, and more coming out all the time. There is no help for it, that I see, and no time to be thrown away in discussing the matter; therefore, while I go and get a hive, and my smoker, and a bee-veil for you, you hurry those horses into the stable. I'll be back inside of five minutes."

Well, to tell the story as briefly as possible, inside of 30 minutes Mr. Bond's bees were contentedly humming within and near one of my 10-frame hives. Quite naturally he regarded those flying bees as very dangerous enemies until I explained to him that bees thus situated never, or seldom, attack any one.

After carefully adjusting his bee-veil I assisted Mr. Bond in lifting his unique bundle out of the wagon, and together we carried it to a shady corner of the barn-yard, where I had placed my hive. Setting it down he—following my instructions—untied the corners of the sheet and laid the ends out flat, one end toward the new hive and as close as possible up to the bee-entrance. Then he tipped the box over and carefully laid it on its side, with the open end, or bottom, toward and near to the bee-entrance of the new hive. In the top-end of the box-hive had been bored two one-inch holes for bee-escapes, which were plugged. Withdrawing these plugs Mr. Bond began blowing smoke

into the hive, thus driving the bees out and toward the receiving-hive.

One thing, however, I did to assist Mr. Bond: With a small copper scoop, such as grocers use in handling teas, which I had brought from the house with me, I transferred a lot of bees from the body of the box-hive to the new hive, putting two scoop-fulls in among the frames. This established bee-connection between the two hives; and the bees were not slow in seeing it.

Let it be understood, however, that I did not forget to direct my pupil's attention to the fact that there was only one right way to use that scoop without irritating the bees and killing many of them.

"It wouldn't do at all to scoop up bees as you would potatoes," I explained to Mr. Bond. "It has to be done in such a gentle, careful, and yet quick way, that the bees will not find out they are being scooped.

"Now, Mr. Bond," I said, after most of the bees had been driven out of his hive, "there are quite a lot of bees inside that box of yours yet, and the best way to get them out and into the new hive is to tip your box bottom-side up. They will soon all be on the wing, unless the queen is yet with them—that, however, is not probable. In a few minutes you will see that these, and the bees flying about where the wagon stands, will have united, and gradually all of them will go in where the queen is with the swarm.

"This evening you can take them home with you safely and in good shape; but not done up in a sheet, Mr. Bond. I'll show you a better way."

"What do you do that for?" asked Mr. Bond, when he saw me set a piece of board slantingly against the front of the new hive.

"I do that," I replied, "in order that the bees that fly out will mark the location of the hive before leaving it. It is not necessary to do this when a swarm is first hived. But when a hive of bees is moved from one location to another, or a colony is transferred from one hive to another and the location changed, it is always best to take this precaution; because without it many of the worker-bees will never find their way back to the hive after leaving it from a location they have never marked.

"Well, Mr. Bond, you have had a very important practical lesson in bee-keeping this morning; and without getting any stings, I believe. We are now ready for something else. I want you to learn about drones to-day. I presume you remember what I said yesterday about looking after drone-brood in the parent hive of that swarm we hived. Well, that's where you will get your next lesson.

"Here you see the lesson that's before you now," I said to Mr. Bond, pointing to the super on the brood-frames of the old hive, after I had removed the cover."

"That super has to be removed before we can properly proceed with our drone-lesson. That is plainly apparent to both of us. Well, here you have a first-class chance to learn one of the important lessons in bee-keeping. It is something that can't be avoided without detriment either by the great or small bee-keeper. If you should conclude to keep only one colony of bees you must, if you want surplus honey, learn how to put on and take off supers. This interesting and important lesson is now before you."

"All right, I'm ready!" exclaimed Mr. Bond, enthusiastically. "What shall I do first? Smoke into the hive to make them fill up?"

"No," I replied, "the bees in this hive are nearly all baby-bees and don't require heroic treatment. The first thing is, to pry the frames loose from the super with this chisel. If the bees then make a rush toward you, don't dodge, but give them a little smoke. They are rather timid, and easily subdued.

"Then you lift the super off and set it down on top of the cover there"—pointing to the cover I had just removed from the hive—"but in setting it down please be careful that none of the bees on the under side are crushed. That can be avoided by setting the super down rather slowly, and very carefully, thus giving the little things time to get out of the way.

"Be careful now, Mr. Bond!" I cautioned, when he bent down to lift the super. "Make sure that you get a good hold at each end before you lift: because if your hold slips you would quite likely have another fracas with my bees, worse than the first."

"I thought you said, just a minute ago, that baby-bees wouldn't sting," remarked Mr. Bond, looking up, his eyes twinkling mischievously.

"I beg your pardon, Mr. Bond; but I did not say that, exactly. Such an event as your dropping that super was not then thought of. I think there are lots of bees in that super, and in the hive, too, that are old enough to sting if you hurt them and smash their treasures.

"Besides that, Mr. Bond, I wish to impress this upon your mind to serve you in the future as a bee-keeper: Bees rank very high in the insect world in the degree of intelligence they possess. I have always been guided by that idea—which to me is a fact—in any manner of handling my bees. I believe that bees—young bees—can be spoiled for life by ill-treatment; about as babies are generally spoiled by the wrong kind of treatment, beginning almost as soon as they are born. Now, right here we have a good illustration, which I shall use in order to fix the principle of the matter upon your mind.

(To be continued.)

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

(The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.)

Swarming-Time Troubles.

What is the matter with me or my bees? I have had eleven swarms and have but two left. They all settled once, except one, and were easy to hive. Some would come out again the same day, and others the next day. Some I put in the third time and then they went away. I clipped the wings of one queen, and still they went away and left her.

My hives are of my own make—Langstroth size, made of white pine with white poplar frames, and foundation starters. ILLINOIS.

ANSWER.—I don't know what is the trouble, but can make a pretty safe guess. The great probability is that your bees would not stay in the hive because it was too hot for them. A cool, shady place for the swarm will help matters. Even in a dense shade it may be so close, with so little chance for a breeze, that I have known combs to melt down in a hive where the sun never shone. On a very hot day, after a swarm is hived, it helps to cool them off to sprinkle well the hive with water. Perhaps more than anything else it is important to see that there is abundant ventilation in the hive. Raise the hive on blocks half an inch to an inch, and at least for a day or two leave the cover partly open, so the air can pass readily through the hive from bottom to top. If the hive must be out in the sun, provide shade for it in some way. Boards laid across the top, weighted down with a stone will do in place of a regular shade-board. An armful of long grass laid on top, held down by two or three sticks of firewood, will answer a good purpose. Some give a frame of brood to a swarm. They are not so likely to desert brood.

I can hardly think the bees absconded without that clipped queen, or some other queen. They may have gone back to their old hive; they may have gone into another hive; or they may have gone off with a young queen which joined them.

A Half-Dozen Questions.

1. How do you separate the honey from the comb in old combs, without an extractor?

2. What is a Van Deusen wax-tube? What is it like, and how used?

3. How do you fasten foundation in shallow extracting frames, 5x18 inches with a groove in the middle of the top-bar, and how do you use wax and rosin in fastening foundation?

4. There was an article in the American Bee Journal of June 6, by F. Greiner, on the management of out-apiaries, where he furnishes them a new hive with six Langstroth frames, with starters. (The supers, he says, should be put over an excluder, which, however, may be taken off after a week's time.) What is the super for? I suppose it has been on the hive and he is putting it back.

5. I have some Langstroth frames with thick top-bars,

and grooved for wedges. When the wedges are taken out, doesn't the partition come out and make the frames of no account? It looked that way to me.

6. How about the beveled top-bar?

TENNESSEE.

ANSWERS.—1. I don't know of any satisfactory way except to let the bees empty out the honey. Of course you can melt the whole business, but you will not get a nice article of honey.

2. One of the bee-supply catalogs, says of the Van Deusen wax-tube: This is a very convenient tool for fastening foundation by the melted-wax plan. It is a tin tube for holding and running out melted wax.

3. Slip the edge of the foundation into the groove, then run melted wax along, or drop a few drops at intervals. Another way is to crowd a string down into the groove beside the foundation. You can use wax and rosin half and half, but it is much better to use pure wax. Years ago I used wax and rosin, and then when I wanted to melt up an old comb I had to throw away the upper part, for I didn't want wax mixed with rosin.

4. The super is for the bees to store surplus in. The excluder is to keep the queen from going up into the super. After the brood-nest is established in the lower story the excluder can be taken away, but of course the supers remain.

5. I don't see why the partition should come out when the wedge is taken out, and I don't see that it would matter much if it did. What do you want to take the wedge out for? When it is put in once it ought to be built in by the bees and last a lifetime. If the time should ever come that you would want to replace the comb with foundation, I think you would want a new frame, too. I have had combs that have outlasted the frames, and I have put old combs into new frames, but I don't remember ever putting foundation into old frames.

6. I think they are not liked as well as formerly. For my own use I much prefer no bevel.

Newly-Hived Swarms Deserting.

I have had two large swarms. Of the first one I put some comb in the frames before I hived it, and a couple of hours afterward they left. On examination I found the comb had broken from its fastenings, and lay in the bottom of the hive. The second I let go a week before disturbing, and then only to straighten the comb, of which there was a large quantity partly filled with brood and honey. Two days afterward they left the hive; after settling I put them into a new hive, and they are apparently contented. On examining the hive they left, I found comb that had broken down—a piece about six inches square. The weather is warm. Do you think it the right thing to work with them in hot weather? The hive they left had a double handful of bees, part of which are working. Would they develop a queen? I have no frame of bees to give them.

INDIANA.

ANSWER.—There is very little for doubt that there was no trouble except that the hive was insufferably hot. At all times it is important that a newly hived swarm shall be kept cool and well ventilated, but the remarkably hot spell that occurred at the time you mention made it especially emphatic. Ordinarily a swarm is safe to remain after the queen has begun laying, but in such exceptionally hot weather, resulting in the breaking down of combs the heat may be sufficient to drive the bees out of a hive in which even a good start has been made. The breaking down of that comb did not drive the bees out of the hive, but the heat that made it possible for the comb to break down was what did the business.

Yes, a double handful of bees may rear a queen if they have eggs or larvæ less than three days old, but it is not likely to be a very good queen reared by so small a number of bees. It is likely, however, to be a better queen reared in such scorching weather than one reared by the same number of bees in cooler weather.

As to its being right to work with bees in hot weather, if there is anything to be done with them the hotter the better so far as the bees are concerned. The only thing against the hot weather is the discomfort of the bee-keeper. As I write this the thermometer stands 99 degrees in the shade with a chance that it may be higher later in the day, and I am eager to get out to work at the bees. But that does not say that the bees should be kept as hot as possible in their hives. Raise the hives half an inch to an inch from the bottom-board by putting a block under each corner. It may be well to raise a hive still higher when a swarm is hived, and the cover may be left partly off for two or three days, so that a draft of air can pass directly through the hive. Sprinkling the hive with cold water will bring temporary relief. In the case of your swarm which left the hive after occupying it a week, the probability is that there would have been no such desertion if the weather had been normal, or if you had raised the hive.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

MR. DONALDSON'S SWARM-CATCHERS.

Nice-looking swarm-catchers for a nice-looking apiary, and a nice report Mr. Donaldson makes of their success. Pages 305, 312. Other swarm-catchers of the same patent have been known to fail, however. Get to play—and then no sound less than thunder, and no sight less flamboyant than a regiment of soldiers marching close by, would be altogether sure of attention.

WATER, POLLEN, AND HONEY.

Man's mouth calls for two indispensables—food and drink; and therefore he easily forgets that the bee's mouth calls for *three* indispensables—water, honey and pollen. It appears that when he supplies the two former abundantly, and they can not find the latter in the fields, nuclei swarm out at a terrible rate, and he, perchance, scratches his head and can't imagine what's up. Page 319.

THAT PROPOLIS CHAP.

Aha! That chap offered 25 cents a pound for propolis because he didn't intend to *pay* anything. Told you so. Put the price high to get many offers; and figured (correctly) that some of them would consent to the bargain of pay on delivery. Page 322.

NATIVE BREEDS NOT ALWAYS BEST.

The maxim that the native breeds of a country are the most fit for that country (as per page 323) is liable to some very heavy discounts. That which is the most fit to run wild is *usually* not the most fit under man's care. Again, aboriginal fitness is often only the lack of severe competition. Most countries have their native rats; but they all have to yield to the Norway rat when he comes around. Most countries have their corresponding little birds; but they all have to yield to the English sparrow when he comes around. South America has a great many species of honey-storing bees (Meliponas, Trigonas, etc.), but they will doubtless yield the ground, to a great extent, to the foreign bee with which we are familiar. The same may apply to breeds as well as to species. Had South America a breed of Apis mellifera it might be nearly on a level with the Meliponas and Trigonas, and much inferior, even on its own soil, to the foreigner.

COMMENTS ON DR. M'LEAN'S SUGGESTIONS.

I incline to tell the doctor (Dr. McLean, page 324) that if he mixes a pound of honey with a quart of water it will be likely to get spoiled long before a family will take it up a spoonful at a dose. Say one-fourth of the quantities.

Canton flannel to hold honey on the skin for medicinal objects, eh? Thanks. But when honey is used for stings it will hardly do to have it in the nap of flannel, as the main object then is to keep the pores of the skin from letting in air.

MR. DOOLITTLE AND OUR COUNTRY.

Anent Mr. Doolittle's lost $4,000,000,000. I'm glad the old motto has been amended. It used to be, "Figures can not lie." Now it reads, "Figures seldom do anything else but lie." Not *quite* sure we need the amendment *this time*. Thousands go pleasuring in Europe with full pockets and come home with empty pockets. Millions of cash have been sent here for investment, won large profits, and then went home profits and all. Many millions every year are sent abroad as interest on all sorts of bonds and things—and that's the last of those millions. Once in awhile a rich American (Waldorf Astor fashion) expatriates himself, millions and all,

Oftener still, a rich American sends millions to a worthless foreign count—and throws in a daughter. (Last item small loss to the continent.) If we added all this together without any rebates we should get quite a total, sure enough. Glad we have a country big enough to stand it all—stand it all as ox in pasture stands the loss of blood the flies take—stand it all and yet make actual progress in changing from a debtor nation to a creditor nation. And when the aforesaid change is complete some of the above bootses will be on other footses. Page 326.

THE LOSS ON SECOND-HAND CANS.

Perhaps you've heard the prosy preacher (who has an hour to fill and not the matter to fill it) say—"a-a-and"—with pauses and emphasis. It seems Mr. Whitney lost a few dimes on some second-hand cans he bought, "a-a-and" ten dollars on the honey he ventured to put inside. "And" is sometimes a major instead of a minor among the parts of speech. Page 306.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

THE KALAMAZOO OF CALIFORNIA.

I have spent Sunday in the Kalamazoo of Southern California. Some one will say Pasadena, but it is not. It is even more to my mind than is lovely Pasadena. It is none other than

BEAUTIFUL REDLANDS.

As we look up from San Bernardino to the East the Sierra Madre Mountains form a U, and the incomparable city of Redlands nestles right in the bend of the arch. San Bernardino Mountain, "Old Gray Back," the highest mountain of Southern California, ever stands close by, and ever looks down in kindly mien upon beautiful Redlands. The Smiley brothers—Alfred H. and Albert K.—visited this place years ago, and sighted a thin, barren hill reaching high up on the southwest of the town, and overlooking a deep pass to the south, through which the Southern Pacific Railroad trends as it stretches eastward between the two great peaks, San Bernardino and San Jacinto.

These great-hearted and far-seeing brothers, whom to know is to love, at once saw the possibilities of what are now famous as "Smiley Heights." They purchased the barren hill site, carried thither brains, taste, water, cultivation, and all kinds of beautiful plants, and to-day those old, barren hillsides are transformed into marvels of beauty. To stand on "Smiley Heights," and to look down upon the beautiful homes often almost hidden amidst the most beautiful and thriving orange orchards known to the world, is to view a scene of incomparable beauty.

I hardly need to say that all Redlanders take pains in adorning street, home grounds, and homes. All this touches the refinement and sweetens the life and heart. I have been privileged to look in upon those homes, and share their hospitality. Theirs are such homes, and theirs such home-circles, as taste and beauty must ever fashion. Oh, that there were more Smiley's to set the pace, and more laymen to follow in their wake, that we might have more of beauty and loveliness about our homes; that we might have more of cheer and loveliness in our hearts. Few of us have the wealth to fashion such grand parks as are seen on "Smiley Heights," but all of us can help to make a lovely home, and can thus do our little part to make a more beautiful world, and more lovely people.

As I write I look out from my window over the city. I can only see parts of houses, for trees are everywhere. Indeed, all Redlands is a magnificent park, set down in which are cottages, or palaces, as the pocket-books of the owners permit, but all are chaste and beautiful.

Why are there not more Redlands in the way of wooded street-sides and home surroundings? Only because we do not arouse to the fact that such beauty gives richest pleasure, and, better still, touches the heart only to refine and sweeten.

There is another side to this picture. Redlands is perhaps the most thrifty city in Southern California. Of course, that must follow as light the sun. Men everywhere are touched by master-pieces of beauty. They look upon them to admire, to long for, to possess. The uncanny features of wealth are softened, subdued, often erased altogether by a love of beauty. Thus our Redlands, while they capture the wealth, secure the best and only true aristocracy of wealth. And thus the wealth is turned into the best channels, and we find a society not only cultured in mind but in heart. It has been my happy privilege to address the people of nearly every part of Southern California, and, as we should expect and know, I find no folk anywhere more delightfully responsive and eager to know than are those of beautiful Redlands.

THE GARDEN.

I wonder if all our home circles appreciate as they should the wealth of satisfaction that comes from a well-kept and productive garden. I have thought of this over and over, as I have picked of late, morning after morning, the luscious blackberries and the great, meaty Logan berries. I have wondered where they all come from. Only a few bushes, and get all we want, and some for the neighbors. How little work and how much fun. I wish all the home circles could hear my merry whistle as I pluck those great handfuls of delicious berries. I am sure they would all wish to whistle in like environs. True, the prickers are there, but the smart is dulled at thought of luscious pies at noon-time, and delicious jam at the tea-table.

I love the blackberry garden. It warms up my whistle in the early morning; it gives me just at the wake-up of the day a chance to be useful, and all for the loved ones who mayhaps are yet all unconscious in sleep; it rejoices me that it will relieve the burden of the dear housewife as she marvels how she can add to the savory dishes or break the monotony of the tea-table, or help out at the dinner hour. If I had small boys—my boy has now his own berry garden—how good to let them hoe, and water, and pick, and receive from papa the very top figure for the very finest berries ever grown!

AND PEAS, ALSO.

I said berries, but I did so only because they seem a little more "tony." I think my whistle is quite as merry among the great rows of prolific peas. It is so difficult to get peas right from the market. It was old Izaak Walton, the man who loved to fish, who said, "Doubtless God might have made a better fruit than the strawberry, but doubtless God never did." Change fruit to vegetables, and strawberries to peas, and I will give a good, warm amen to the sentiment. There is something pretty satisfactory in a right good mouth-water. Well, I just have that all the minutes I am picking the peas. It just seems to hang on the whole forenoon in a kind of unconscious anticipatory getting ready for the most savory dish of peas, that graces most the dinner-table.

ASPARAGUS.

I sometimes wonder if the peas are jealous as they see me look longingly over to the asparagus plants, or hear me whistle jubilantly as I cut the great fleshly stems, that seem to rival Jonah's gourd as they stretch up in a night. I commiserate the home that has not its asparagus garden.

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To Our Shippers.

About May 1st last, we removed our business from the buildings 120–122 W. Broadway to larger and more commodious quarters at Nos. 265–267 Greenwich St., and 82, 84, 86 Murray St., and we duly sent to our friends in the trade a notice of our removal. Shortly after we vacated the premises (120–122 W. Broadway,) one Joseph M. McCaul, rented a portion of our old quarters, and hung out a sign, "Hildreth, McCaul Co., Jos. M. McCaul, Prop.," with other large signs to the effect that his business is "headquarters for honey, beeswax, maple sugar and maple syrup."

The mercantile agencies report that Jos. M. McCaul is the sole proprietor of the new business, and that he claims to have paid to one Henry P. Hildreth (who has no connection with our business,) a consideration for the use of his name.

We will not comment upon the act of leasing our old quarters and exposing thereon the sign, "Hildreth, McCaul Co.," further than to state that we have instructed our attorneys to apply for an injunction restraining the said McCaul from using the name of "Hildreth" in connection with his business in any manner whatsoever.

We value highly the good name and business we have established by many years of satisfactory dealing with our friends in the trade, and we therefore send this notice so that you may not possibly confound us in any manner with the so-called "Hildreth, McCaul Co."

Our firm name remains as heretofore, and all our business is carried on at our new quarters—

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Untested	$ .75	$4.00	$ 7.00
Tested	1.25	6 50	10.00
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Safe arrival guaranteed. Descriptive price-list free. D. J. BLOCHER, Pearl City, Ill.

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GENERAL ITEMS

Prospects for a Large Honey-Flow.

The prospect is good for a large basswood flow, which will be out in about a week. Alsike and white clover are yielding well now. I. A. TRAVIS.

Wood Co., Wis., June 29.

Bees Doing Fairly Well.

Bees are doing fairly well here. I wintered 6 colonies, and have increased to 12. I have prevented all swarming, though they are very strong in bees. They have already stored six supers of honey.

I have three kinds of bees, and the leather-colored Italians are the best. JAS. H. KNOTTS.

Preston Co., W. Va., June 22.

April Weather Hard on Bees.

I put 42 colonies of bees into winter quarters, and 40 of them came through safely, but one died in April of spring dwindling. April was a very hard month on bees, only 1½ days out of the first 23 being sunshiny. On April 6 last year I moved my 29 colonies of bees from Tyngsboro to this place, and there were not two days in succession that the bees did not go out foraging. This year there were five days in succession that no bees were flying. JOHN T. COBURN.

Middlesex Co., Mass., June 22.

White Clover Dried Up.

White clover is about dried up, three weeks ahead of its usual time. Basswood is just beginning. I can't tell what it will yield yet, but it looks well. E. M. JOHNSON.

Dane Co., Wis., July 1.

Finds Bee-Keeping a Pleasure.

I was born in Hillsdale Co., Mich., April 16, 1869, and lived on a farm until about 18 years of age, when I began attending high school in Hillsdale. From that time until 1897 I was in school work, either as student or teacher. In the fall of 1896 I married Miss Mazie E. Harmon, of Mason County.

Because of the confinement of school work, my health began to give way, and we decided to locate on a fruit-farm. So here we are in the midst of the Michigan fruit-belt, with more than 2000 trees to look after. We have daily mail delivery, telephone connections, and are pleasantly located to enjoy life.

During the fall of 1899, while making a small business transaction with one of my neighbors, he proposed to turn three colonies of bees over to me in the deal. I knew nothing about bees, that is, so far as management was concerned, but I have a honey-tooth, and am somewhat curious to learn the habits of plants, insects, etc., so the deal was made. The neighbor agreed to deliver the bees and pack them for winter, and he did as he agreed, but he packed them too tight.

Of course, as soon as I purchased some bees I began reading everything I could find on that subject, getting ready to manage them the next spring. Spring came, and one fine day my neighbor came over to unpack the bees and get me started. As I said before, he had packed them too tight, and all were smothered. The honey was there, but the bees were dead. My neighbor was perplexed and disappointed, and of course I was. But he left me the honey, and gave me another colony in a very poor box-hive, and I began to work with my bees.

During June they swarmed, and I hived the new swarm on the old stand, and soon transferred the old colony to a movable-frame hive. I did not get much surplus last season, but bought another good colony in the fall, and

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.

The Queen Establishment

— OF —

O. P. Hyde & Son, Hutto, Texas,

IS FOR SALE.

This establishment consists of 3 entire apiaries, 500 nuclei, and everything connected with the business. Hyde's superior long-tongued stock of straight Goldens and light home bred 3-banders, have no superiors. Full particulars, prices, cause for selling, etc., made known on application. If interested, write at once.

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We make them in all sizes and varieties, 10 FIT ANY AXLE. Any height, any width of tire desired. Our wheels are either direct or staggered spoke. Can FIT YOUR WAGON perfectly without change.

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Northern Italian Queens!

Reared from Imported Mothers.

Our stock is so carefully bred and selected, as to secure car-loads of honey. Locality free from foul brood and other bee-diseases. Prices: 1 untested Queen, $1.00, 6 for $5.00; 1 tested Queen, $1.50, 6 for $7.50; best imported Queens, $6.00; fair imported, $5.00.

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THIS book of 175 pages presents a clear and concise treatment of the Belgian Hare industry; its growth, origin and kinds; the sanitation and construction of the rabbitry; selection of breeding stock; care of the young, feeding, diseases and their cures, scoring, marketing, shipping, &c. First edition of 50,000 copies was sold in advance of publication.

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has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

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I am Now Prepared

to fill orders promptly for Untested Queens reared from a breeder of the HUTCHINSON SUPERIOR STOCK, or a select GOLDEN breeder, and mated to Golden drones, at 75 cents each; $4.00 for 6, or, $7.50 per dozen.
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W. H. PRIDGEN,
22Atf Creek, Warren Co., N. C.
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25Atf T. F. BINGHAM, Farwell, Mich.
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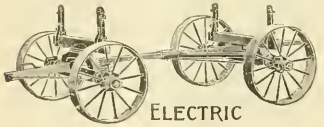
Just received a consignment of the finest up-to-date HIVES and SECTIONS we've had. They are 2d to none. Complete line of Bee-Keepers' Supplies on hand. Bees and Queens. Catalog free.
THE A. I. ROOT CO.,
H. G. ACKLIN, Manager.
1024 Miss. Street, St. Paul, Minn.
14Atf Please mention the Bee Journal.

ALBINO QUEENS If you want the most prolific Queens—If you want the gentlest Bees—If you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.
11A26t J. D. GIVENS, LISBON, TEX.
Please mention Bee Journal when writing.

Farm Wagon Economy.

The economy of this proposition is not all found in the very reasonable price of the wagon itself, but in the great amount of labor it will save, and its great durability. The Electric Wheel Co., who make this Electric Handy Wagon and the now famous Electric Wheels, have solved the problem of a successful and durable low-down wagon at a reasonable price.



This wagon is composed of the best material thruout—white hickory axles, steel wheels, steel hounds, etc. Guaranteed to carry 4000 lbs. These Electric Steel Wheels are made to fit any wagon, and make practically a new wagon out of the old one. They can be had in any height desired and any width of tire up to 8 inches. With an extra set of these wheels a farmer can interchange them with his regular wheels and have a high or low-down wagon at will.

Write for catalog of the full "Electric Line" to Electric Wheel Co., Box 16, Quincy, Ill.

Please mention Bee Journal when writing Advertisers

packed them all on the summer stands for winter. Two of them came through the winter in good condition, and the other one not so good. Two have swarmed, and all are working well on clover now.

I consider that the knowledge gained and the pleasure derived from the bees pay well for the venture, and I expect to eat some fine honey this year, and continue to study the habits of the little bee. H. D. STOWELL.
Mason Co., Mich., June 24.

Some Kinks in Bee-Keeping.

Tack a piece of fine wire-cloth over the valve on the smoker bellows. This will keep other people from spoiling the spring by sticking their fingers through, as well as to serve to keep bees, etc., from getting in and preventing the valve from closing.

In wiring frames start the tack slanting. Then fasten the first end of the wire to the bottom, and the last one to the top. Driving the tack draws the wire tight. The "A B C" book says, "Do not have it tight," but an experience with over 10,000 frames this season shows that the tighter the wire the more good it does.

Two horizontal wires seem to be enough even with 10 sheets to the pound, except for swarms. Then the weight of the many bees will make almost anything sag on a hot day.

Put the spacing staples on the bottom end of the end-bar instead of the top. By so doing one will avoid smashing bees when lifting the frames out in a hurry. This is the method used by the Coggshalls and other rapid workers. These staples should be used on all frames, whether short top-bar or not. They also keep the end-bars from getting stuck fast at the bottom.

Wear a pair of bicycle pants'-guards when at work in the apiary, and thus keep the bees from getting inside of your trousers.

Always give the visiting small boy (and the big ones, too,) some honey. When they know that they can get it by going when the owner is there, they will not visit his apiary for it when he is absent. HARRY HOWE.
Cuba, June 18.

Big Clover Crop—Bees Booming.

We have the biggest crop of white clover that I ever saw. Bees are booming, and I am putting on the second supers.
L. HIGHBARGER.
Ogle Co., Ill., June 26.

An Old-Time Honey-Flow in Ohio.

The past spring here was a very poor one, and we had to restock some of our nuclei the second time.

We are having an old-time honey-flow for the first time in three years, and we appreciate it very much. The prospect for its continuance is good. H. G. QUIRIN.
Erie Co., Ohio, June 26.

Bees, Bears and Turtles in the Mangrove Swamps.

Bees are in fair condition, but the honey season is very late here, and but little honey has been stored yet.

I have moved two apiaries to the mangrove swamps, where we elevated the stands about seven feet above ground, so as to be sure to have them above water in case of a gale. I am now fixing to move 150 more colonies to another mangrove swamp, where there are about 100 acres of solid mangrove trees within a mile of the bees. You can imagine what a job it is to build stands seven feet above the ground for 150 colonies, and have room to work with them. Also to build a barbed-wire fence around them that is bear tight and bull strong.

Bears are quite plentiful here. W. A. Martin and F. C. Prang heard queer noises across the creek from Mr. Prang's home the other day, and upon investigating found two bears and two cubs. They shot the bears, and took the cubs, that would weigh about 25 pounds each. Mr. Martin took the cubs to Ft. Pierce, where he sold them for $10. He

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Italian Queens Free

BY RETURN MAIL.

For sending us **One New Subscriber** for one year, to the American Bee Journal, with $1.00, we will send, **by return mail**, a fine Untested Italian Queen free as a premium. This offer

is made **only to our present regular subscribers.**

We will mail one of the above queens alone for 75 cents; or 3 for $2.10.

Please do not conflict the above offer with the one on another page which refers to Red Clover Queens. For sending us **two** new subscribers, and $2.00, we will mail free as a premium an Untested Red Clover Italian Queen.

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The Pacific Rural Press,
The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.
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$13.00 to Buffalo and Return $13.00
via the Nickel Plate Road from Chicago, for the Pan-American Exposition. Tickets on sale daily, good leaving Buffalo up to midnight of the 10th day from and including date of sale. Also tickets on sale daily Chicago to Buffalo and return at $16.00 for the round trip, with 15-day limit, including date of sale. $21.00 Chicago to Buffalo and return, good for 30 days.

Tickets Chicago to New York and return at special reduced rates. Write John Y. Calahan, General Agent, 111 Adams St., Chicago, for full particulars and folder showing time of trains, etc.
16-28A3t

was on the ocean beach hunting turtle-eggs yesterday, and found a place that was badly mixed up with bear and turtle tracks, which showed a severe struggle had taken place. Following a trail leading back in the bushes for half a mile he found a 200-pound turtle partly eaten. He dressed the turtle and took the meat home, bringing me a generous mess of it. These turtles come out on the ocean beach at this time of the year to lay their eggs, which are about as large as hen's eggs, but not so good. They lay from 100 to 200, and then go back into the ocean again. The turtles sometimes weigh 1000 pounds, but I never saw one that weighed more than 400 or 500 pounds.

I was shot on Feb. 16, and have hardly gotten my usual strength back again. I was intending to commence extracting to-day, but it has rained hard all day. H. T. GIFFORD.

Brevard Co., Fla., June 11.

Amount of Honey Stored in a Day.

My bees came through the winter in rather poor condition, but they are doing well at present. I have two colonies of pure Italians that occupy three 8-frame brood-chambers.

I have been away to school, and did not get home in time to give my bees the attention they should have had. I have been surprised to find how ignorant and afraid most people are of bees when they come in contact with them, but how much they know about them if they never have had anything to do with them!

My father became anxious to know how much honey the bees stored in one day, so he made what he calls a pair of "scales." He measured off one-half of a plank and rested the middle on the edge of a board. On one end he fastened a colony of bees that had been hived only a short time before, and on the other end a rock that would just balance the weight of the hive and bees at dusk. He put on bricks as the hive grew heavier, claiming that as he weighed the bricks he could tell just how much honey was gathered in a day. One evening the scales showed about 8½ pounds gain, but it was 4 pounds lighter in the morning. LESLIE HAZEN.

Nemaha Co., Kans., June 19.

BEEDOM BOILED DOWN

Supersedure and Control of Queens.

Dr. C. C. Miller says in the American Bee-Keeper:

It is undoubtedly cheaper to let the bees themselves do the superseding than to replace queens with others, either home-reared or purchased; but the wise bee-keeper will still keep the whole matter under his control by suppressing all poor stock and encouraging the good. From time to time he will seek to improve by introducing fresh stock from the best queen-breeders; but he will not stop at that. He will keep tab on the performance of every colony, and be able to tell you just what the progeny of each of the queens did during the preceding year, or years, of their lives; and knowing this, he will know from which queen he is to rear. This matter of keeping a careful record of the performance of each colony is at the foundation of building up an apiary that is to bring in the best returns. How many bee-keepers do you suppose keep any such record?

If you have never given the matter any attention, perhaps it may be well to recall some facts that you have probably noticed without carefully considering their bearing. You may have noticed that, as a rule, the colonies most given to swarming have not been among the best for storing surplus, and that those which have made the best super records have not wasted much time in swarming. If you have paid no attention to this, but have left the bees to run things their own way, the bees most given to swarming are the ones that have given you increase almost entirely,

G. B. LEWIS CO. TRADE GB CO. MARK WATERTOWN WISCONSIN U.S.A.

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Branch, G. B. LEWIS Co., 19 S. Alabama St., Indianapolis, Ind. Excellent shipping facilities and very low freight rates for Southern and Eastern territories.

25 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 25 cents a pound—CASH—for best yellow, upon its receipt, or 27 cents in trade. Impure wax not taken at any price.

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GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

Tennessee Queens!

Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3¾ miles apart, and mated to select drones, $1.50 each; untested, $1.00 each; warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and but few within 5 miles. 28 years' experience. Discount on large orders. Contracts with dealers a specialty. JOHN M. DAVIS, Spring Hill, Tenn.

6A26t

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Standard Bred Queens.

Acme of Perfection.

Not a Hybrid Among Them.

IMPROVED STRAIN GOLDEN ITALIANS.

World-wide reputation. 75 cts. each; 6 for $4.00.

Long-Tongued 3-Banded Italians

bred from stock whose tongues measured 25-100 inch. These are the red clover hustlers of America.

$1.00 each, or 6 for $5.00. Safe arrival guaranteed. FRED W. MUTH & CO.

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Marshfield Manufacturing Company.

Our Specialty is making SECTIONS, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

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Red Clover Queens

LONG-TONGUED BEES ARE DEMANDED NOW.

ONE Untested Italian Queen FREE as a Premium for sending us TWO new subscribers to the American Bee Journal for one year (with $2); or, one Tested Queen free as a premium for sending us FOUR new subscribers with $4.00).

We have arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us the coming season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

All queens guaranteed to arrive in good condition, and all will be clipped, unless otherwise ordered.

CASH PRICES of these fine queens will be as follows: Untested, $1.00 each; Tested, $2.00 each. Send all orders to

GEORGE W. YORK & CO.

144 & 146 Erie St., CHICAGO, ILL.

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while your best colonies have given no increase. Don't you see that such a course, continued indefinitely, will inevitably result in run-out bees? By keeping matters under your own control, you can make the current run the other way.

Introducing Queens With Tobacco-Smoke.

Here are instructions that I am sending out this year for introducing queens, and guaranteeing the safe introduction. After giving notice of the date when the queen will be sent, I say:

As soon as you receive this notice, remove the queen from the colony to which you expect to introduce the new queen. When she arrives, put her away in a safe place until after sundown, just at dusk, then light your smoker, and when it is well to going put in a pipeful of smoking-tobacco, put on the cover, puff until you get an odor of tobacco, then puff one or two good puffs into the entrance of the hive. Wait two or three minutes, then send in another good puff, remove the cover, drive the bees down with a puff of smoke, open the cage and allow the queen to run down between the combs, following her with a puff of smoke, and put on the cover. Half an hour later, light up the smoker again, putting in the tobacco as before, and blow two more good puffs in at the entrance. If no honey is coming in, feed the colony a pint of syrup each night from the inside of the hive, but don't disturb the brood-nest for four or five days.—Bee-Keepers' Review.

Weight of Wax-Scales.

E. F. Robinson gives this interesting bit of information in the Canadian Bee Journal:

While making a display of the natural history of the bee a few weeks ago, I took the trouble to sort out a lot of wax-scales from some fine refuse, and arranged these, the natural scales, into the word WAX, but before doing so I weighed a number on a pair of jeweler's diamond scales to find out how many went to the pound, for I could not find any reference to this in any of the many books on the bee. I find there are just 192 to the grain, and of course 1,474,560 to the pound.

Inversion of Brood-Combs.

This has been found profitable by Mr. L. L. Esenhower, of Pennsylvania. In the fall he takes away all combs not covered by the bees, taking good care of them, and in the spring he returns them, *upside down*. He uses an invertible frame of his own make, and slightly opens the cappings of the combs when he returns them to the hive. He believes that he has prevented many cases of spring dwindling by this practice. He admits that inversion has been cast off long ago, but, very wisely, says that we sometimes cast away something that we *think* we have tried, whereas, we have scarcely made its acquaintance.—Bee-Keepers' Review.

Co-operation Among Bee-Keepers.

The June number of the Rocky Mountain Bee Journal is almost entirely taken up with the matter of co-operation among bee-keepers. Those Coloradoans are not merely theorizing on the matter, but have been putting in practice some excellent co-operative work, somewhat to the advantage of their pockets. It seems that they have so enlarged the work that they now have, under the title of "The Colorado Honey-Producers' Association," an office kept open the year round in Denver, with Frank Rauchfuss as its energetic manager. The following interview with Mr. Rauchfuss is given in the paper mentioned:

"1. What advantage, if any, accrues to stockholders in the Colorado Honey-Producers' Association, besides dividends on their stock, in the purchase of supplies through that Association?"

"You should emphasize the fact that the Association was formed to enable its members to market their honey profitably. We kept up the price of honey last year very successfully. We handled a large share of the honey crop. Our members got the best prices for their honey; and at the close of the season we were able to return them 95 percent of the usual commission. Handling only honey we could not afford to keep a store open the whole year. By expanding our business we are able to keep the store open all the year; to keep in closer touch with the bee-keepers and the trade, and to handle the business more successfully, because more intelligently. You know that supplies are cheaper than last year. We claim part of the credit for that. The State Association deserves part of the credit, perhaps the larger part. Any one who will compare the price-list of last year and this year can figure out the advantages for himself."

"2. Has the handling of supplies by the Association tended to cheapen the price of supplies in the city of Denver?"

"Compare the lists," said Mr. Rauchfuss. I compared. Eight items from last year's price-list footed up $9.42; the same eight items from the price-list for this year amount to $8.34. These are staple articles. The difference amounts to a trifle less than 13 percent of present prices—a saving worth considering.

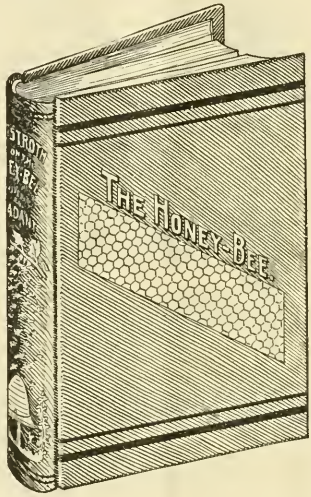
"3. Would you favor the establishment of branch associations for the handling of supplies, subsidiary to the main association in the smaller cities throughout the State?"

Mr. Rauchfuss answered with an emphatic "Yes!" and then walked away to wait on an impatient customer.

Langstroth on... The Honey-Bee

Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.



The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

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BEE-SUPPLIES!

ROOT'S GOODS AT ROOT'S PRICES

Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.

WALTER S. POUDER.

512 MASS. AVE. INDIANAPOLIS, IND.

Please mention Bee Journal when writing.

Horehound Honey.

H. H. Hyde says in the Southland Queen that horehound is in his locality in Texas, "and sometimes it ruins a good deal of honey in the fall, but in the spring it fortunately blooms early enough so that all the honey is consumed in brood-rearing."

Fastening Foundation.

C. Davenport fastens foundation in brood-frames or sections by means of something like a large medicine-dropper or pipette. He says in Gleanings in Bee-Culture:

Mine is made of a tin tube about 4 inches long, and not quite $\frac{1}{2}$ inch in diameter. The lower end of this tube is gradually tapered down to a point, so the hole at the extreme end is a little less in size than what it would be on an ordinary lead-pencil if the lead were removed to the upper part of the tube. A rubber nipple or bulb is attached, and it is important to have this rubber fit over the tube tight enough to exclude air. When the lower end is placed in melted wax, or any other liquid, with the rubber bulb compressed between the thumb and finger, as soon as it is allowed to expand by air suction, it draws some of the liquid up into the tube. By allowing the rubber to remain expanded the tube will not leak when withdrawn, no matter what position it is held in. Pressure on the rubber forces the liquid out slow or fast, just as desired.

Does a Queen Carry Foul Brood?

The editor of the Australasian Bee-Keeper says:

My opinion on the matter is so decided that should I need a queen from a foul-broody apiary I would introduce her into a healthy colony of bees without the slightest hesitation or fear of communicating the disease. I would, however, deal very deliberately with any bees accompanying the queen. Every one would be crushed and afterwards burnt. In my opinion, it is the bees only that communicate the disease, and not the queen. To back up my assertion, I may say I know of numerous queens from foul-broody colonies having been introduced to healthy bees, and

have yet to find the queen blamed for communicating the disease. When I get a queen from elsewhere, or an imported queen, I open the cage before a closed window, and after the queen is caged I destroy *every* bee. Most of them are readily crushed when flying against the window glass.

Extracting-Supers Over Winter.

In the Southland Queen, Louis Scholl tells that he practiced putting enamel cloth over his brood-frames and piling the extracting-supers above for winter. He says further:

But this had to be removed in the spring, so last year I tried some of the heavy brown paper used by butchers, and putting a sheet on top of the brood-frames, by just tilting back the supers and all above. If honey is in the top supers, a hole can be torn in the sheet of paper to let the bees go for it above.

I would prefer to have the sheet of paper a little narrower than the hive is wide inside, leaving a passageway next to the walls.

In spring, as soon as the colony gets more populous, and more room is needed, the bees will attend to the paper, gnawing it away, and saving the apiarist the labor of removing it.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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Bees = Supplies

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Reduced Rates to New York City.

From July 1st till further notice the Nickel Plate Road offers round trip tickets Chicago to New York City, returning same route or going and returning by different routes, at option of passengers. No excess fare is charged ou any of its trains. Meals served in up-to-date dining-cars, ranging in price from 35 cents up, but not exceeding $1.00 for each person served. Secure tickets and sleeping-car berths at City Ticket Office, 111 Adams St., Phone 2057 Central. 15-28A1t

Catnip Seed Free!

We have a small quantity of Catnip Seed which we wish to offer our readers. Some consider catnip one of the greatest of honey-yielders. We will mail to one of our regular subscribers **one ounce** of the seed for sending us ONE NEW subscriber to the American Bee Journal for a year with $1.00; or will mail to any one an ounce of the seed and the American Bee Journal one year—both for $1.30; or will mail an ounce of the seed alone for 50 cents. As our stock of this seed is very small, better order soon.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, June 19.—New comb honey has not yet reached this market. It would sell at 15@16c if choice white, and the ambers at 12@13c. The market is entirely bare with exception of a few cases of a lot that we had held for us, expecting it would be needed. Advices are that shipments will be started by July 1. Very little trading is being done in extracted, as large dealers will not contract this season unless at low figures; some sales of amber have been made at 4½@5c for early autumn delivery; white is held at 5½c. Beeswax sells at 30c.
R. A. BURNETT & Co.

CINCINNATI, May 17.—No demand for comb honey, also stock of it well exhausted. Extracted very dull; sales are more or less forced; lower prices from ½ to 1 cent per pound.
C. H. W. WEBER.

BOSTON, June 29.—There is practically no comb honey in our market, and owing to warm weather very little call for it. Are expecting some new comb early next month. Market for extracted dull, at 6½@7½c.
BLAKE, SCOTT & LEE.

OMAHA, May 1.—Comb honey, extra white, 24-frame cases, per case, $3.40; No. 1, $3.25; amber, $3.00. PEYCKE BROS.

NEW YORK, June 1.—Extracted honey is exceedingly dull and very little moving. We quote for the present: White, 6½@7c; light amber, 5½@6c; amber, 5@5½c. Some demand for comb honey at unchanged prices. New crop is now beginning to arrive from the South, and sells at from 12@15c, according to quality and style. Beeswax, 29c. HILDRETH & SEGELKEN.

ALBANY, N. Y., June 18.—Honey market is dull with no receipts or stocks and little demand. It is between seasons now. Prospect of good crop in this vicinity from what bees there are left, the greater portion having been killed by foul brood exterminators. H. R. WRIGHT.

DETROIT, June 27.—Very little old honey in market, and no new honey come in yet. Splendid showing for a good yield of white clover honey. Beeswax, 26@27c; demand light.
M. H. HUNT & SON.

BUFFALO, June 26.—Honey not wanted till cool, fall weather. Little old honey here and dragging, 6@10c. Extracted not wanted. Fruit takes place of honey now. BATTERSON & Co.

KANSAS CITY, June 14.—Very little old honey on our market but what is damaged by being granated. Sales are light at 15 cents for best grade No. 1 Colorado. Beeswax firm at 25@30c.
W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

SAN FRANCISCO, June 5.—White comb, 11½@12½ cents; amber, 9@10c; dark, 6@8 cents. Extracted, white, 5@6c; light amber, 4@4½c; amber, 3½@4c. Beeswax, 26@28c.

Dealers are very bearish in their ideas, but are not securing much honey at the prices they name. In a small way to special trade an advance on quotations is being realized.

Wanted Fancy White Comb Honey in no-drip cases; also Extracted Honey. State price, delivered. We pay spot cash. FRED W. MUTH & Co., Front & Walnut Sts., Cincinnati, Ohio. Reference—German National Bank, Cincinnati.
28A17t Please mention the Bee Journal.

BEES WAX We will pay 25c. cash, per lb. for pure, bright, yellow beeswax, and 20c. cash, per lb. for pure, dark beeswax delivered here. CHAMBERLAIN MEDICINE CO., Des Moines, Iowa.
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Alfalfa Clover	80c	1.40	3.25	6.00
Japanese Buckwheat	30c	.50	1.00	1 60

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I ARISE

To say to the readers of the BEE JOURNAL that

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has concluded to sell QUEENS in their season during 1901, at the following prices:

1 Untested Queen	$1.00
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1 Tested Queen	1.25
3 Tested Queens	3.00
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Select Tested Queen, last year's rearing	2.50
Extra selected breeding, the very best	5.00

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Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

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A Bee-Keeper's Paradise.

En route to El Paso.—I have just come from a county about 40 miles square that has more bee-keepers to the square mile than any other locality of its size I ever visited. The inhabitants talk bees at the hotels, on the streets, and everywhere, just as farmers talk crops and business in the North. This county produces more honey than any equal area, I believe, in the United States. Some say that its yearly output is a *whole trainload of honey;* but many aver that this is too low, and that two whole trainloads would come nearer the truth. Of course this great amount doesn't go all in one lot, but in large and small shipments.

The average per colony is high, and there is a honey crop every season. It is estimated that in this one county, outside of the towns, nearly one-half the population are bee-keepers.

The great bulk of the honey is of the very finest, and some of it is literally water-white. There are thousands and thousands of acres of honey-plants on cheap land: and bees—there are not enough to gather it all.

The bees commence swarming early in the spring; and, *when the main honey-flows commence, actually stop swarming*, destroy cells, kill off the drones, and commence business. Did you ever hear the like of it before? You say, "No, and no one else." Well, I think I can prove every statement; but for the present I am not at liberty to give the place or other details; but very shortly I'll tell the whole story, with some fine pictures.

This is only one of the good things in store for readers of Gleanings in Bee-Culture. Send 15 cents for three months' trial or 25 cents for six months' trial, or $1.00 for one year and one untested Italian Queen. Send $2.00 and we will send Gleanings one year and one of our Red Clover Queens. Speak quick if you want one.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor

CHICAGO, ILL., JULY 18, 1901.

FORTY-FIRST YEAR No. 29.

WEEKLY

TELLING THE BEES.

Out of the house where the slumberer lay,
Grandfather came one summer day,
And under the pleasant orchard trees
He spake this wise to the murmuring bees:
"The clover-bloom that kissed her feet
And the posey-bed where she used to play
Have honey store, but none so sweet
As ere our little one went away.
O bees, sing soft, and bees, sing low;
For she is gone who loved you so."

A wonder fell on the listening bees,
Under those pleasant orchard trees,
And in their toil that summer day
Even their murmuring seemed to say:
"Child, O child, the grass is cool,
And the posies are waking to hear the song
Of the bird that swings by the shaded pool,
Waiting for one that tarrieth long."
'Twas so they called to the little one then.
As if to call her back again.

O gentle bees, I have come to say
That grandfather fell asleep to-day,
And we know by the smile on grandfather's face
He has found his dear one's 'biding place.
So, bees, sing soft, and bees, sing low,
As over the honey-field you sweep—
To the trees abloom and the flowers ablow,
Sing of grandfather fast asleep;
And ever beneath these orchard trees
Find cheer and shelter, gentle bees.

—EUGENE FIELD.

THE AMERICAN BEE JOURNAL

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GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

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To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

"MY WIFE came pretty near calling me honey last night."

"So?"

"Yes. She called me beeswax."

DR. C. C. MILLER, of McHenry Co., Ill., wrote us July 10:

"102 degrees in the shade to-day. I don't remember a day so hot before. Neither do I remember so dry a summer before. Much of the grass looks as dead as in winter. A very blue time for bee-keepers."

THE AUSTRALIAN BEE-KEEPERS' REVIEW is the latest candidate for the favor of bee-keepers. Pity that a journal so neatly gotten up could not have had a name all its own, without the danger of its getting mixed up with a very excellent bee-paper published on this side of the globe.

MR. J. T. HAIRSTON, of Cherokee Nation, Ind. Ter., wrote us July 9, as follows:

"We are having the most disastrous drouth and hot weather ever experienced here. Corn and hay are beyond help, bees are doing nothing, so no surplus honey.

"I was waylaid and shot April 12, my thigh being broken, and also badly cut. I am crippled for life. Six weeks later my little girl, Jennie, had her hand crushed in a feed-mill. It had to be amputated.

"I have 175 colonies of bees."

Surely, Mr. Hairston has more than his share of troubles. All our readers will sympathize with him in his many misfortunes.

MR. GEORGE B. WHITCOMB'S home apiary is shown on page 455. It will be observed that he has both the unpainted and the painted hives, preferring the former in that excessively wet climate. The stands used for them are the best kind for there, and he thinks the advice given that person in Multnomah County was poor, when he was told that hives on the ground or near it, and covered with snow, were all right. Mr. W. has seen the snow so full of water there that it would fill the hives and drown the bees. In fact, a neighbor bee-keeper, Mr. Christensen, lost 40 odd colonies just that way. Also an observatory hive containing one comb would not work there, as the nights are too cool at any time of the year.

Mr. Whitcomb had just bought the apiary of Simon A. Nickerson, situated in Linn County, and spent a few days in knocking out the swarming-fever; he believed he had succeeded completely. Mr. Nickerson is one of the old subscribers to the American Bee Journal, and has been counted one of the best bee-keepers in Oregon in his time, but he has been rapidly failing for the past two years, until now his lower limbs are completely paralyzed, and he is bedfast, being able to move only the upper part of his body, with a cord suspended from the ceiling, to which a handle is fastened. This is sad indeed.

In looking over Mr. Nickerson's apiary, Mr. Whitcomb can see the history of bee-keeping for a number of years past. The majority of his colonies were in modern dovetailed hives of the 8-frame and dummy-board pattern, but a few were in the old 10-frame chamfered-edge A. I. Root pattern of 15 years ago, of which there are 30 or more neatly piled up along the fence.

The solar wax-extractor is there, and so is the Porter bee-escape; the Alley queen and drone trap, and numerous other things have been tried, but the best thing Mr. W. has seen for real, downright good service is a pair of frame-tongs. They are like pliers, made just wide enough when open to slip over the top-bar and hold it firmly between two lugs (one in each jaw) that are pressed into the wood when closed; while one of the jaws is longer than the other, so as to be used in prying apart supers, hive-covers, etc. In fact, he thinks it is the best tool for handling cross bees that he ever saw, as with it he can manipulate the frames with one hand while keeping the smoker in the other.

MR. A. I. ROOT is in danger of making trouble for the government. He is not entirely satisfied with its course in the liquor problem, and he thinks the Agricultural Department might issue a bulletin about tobacco just as well as about beans, sugar, eggs, etc., giving its value as an article of steady consumption. He says in Gleanings in Bee-Culture:

I wish I had influence enough with the Agricultural Department at Washington to induce it to publish a bulletin with a heading something like this:

"Tobacco, and its General Effect on the Human Family. Should its Cultivation and Dissemination be Encouraged or Discouraged?"

Then I should like to have a closing chapter something like this:

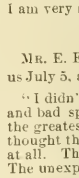
"The Effect of Tobacco on Children and Young People. Should its Use be Prohibited to those under a certain Age? If so, what Age? Also a Consideration of the Cigarette Habit."

ROBERT W. POLLEY, of Middlesex Co. Mass., writing us June 10, said:

"I have successfully transferred, united, Italianized, and fed up weak colonies all from items taken from the American Bee Journal, besides wintering bees safely; and, in fact, all the good I know about bees I have studied out of that paper. It is needless to add that I am very much pleased with it."

MR. E. E. HASTY, of Lucas Co., Ohio, wrote us July 5, as follows:

"I didn't think, with such bad wintering and bad spring, that such a rush of swarms—the greatest for some years—would ensue. I thought there would be almost no swarming at all. That's the way when we keep bees. The unexpected happens."



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AMERICAN BEE JOURNAL

ESTABLISHT IN 1861

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., JULY 18, 1901. No. 29.

Editorial.

The Thousand Members of the National Bee-Keepers' Association (or the balance of about 200) which we are trying to secure among the readers of the American Bee Journal, are coming in slowly. As promised, we begin to pubish the list of those that are going to help make up the number necessary to have an even 1000 by the time of the Buffalo convention in September. Since we began this effort, we have received the following names with a dollar each:

W. D. Phillips. H. B. Shoonover.
W. J. Forehand. C. H. Harlan.

We hope by another week to have a much larger list of names of new members to publish.

Are We Doing Our Best in Breeding?—While the theorizers are having their say, and are doing some good by stirring up to a full knowledge of what is required in scientific breeding, are the rank and file of bee-keepers doing their best with what they do know? It is not difficult for any one to understand that if he has a colony that gives twice as much as the average in surplus, and another that gives only half as much, if he makes his increase by swarming, and gets more swarms from the poorest than from the best, that his stock will grow worse instead of better. And yet are there not thousands who will get their increase just by allowing the bees to have control of swarming? And in that case is it not generally the case that the poorest storers do the most swarming? We can not control the matter of mating to a very great extent, but are pains taken to control it as far as possible? Are drones superseded in poor colonies and encouraged in the best? If we do the best we can with what we have and with what we know, will we not be doing a good deal better than we are now doing? These are trite words, but it is none the less important to stir up your pure minds by way of remembrance.

Bee-Keeping on Paper.—If a bee-keeper is down with a fit of the blues, one way to cheer him up is to give him a good supply of reading-matter about bees, taking an average lot as found in agricultural and other papers. It is true that some agricultural papers have bee-departments that are reliable, but most of them are more or less re-lie-able. In the Twentieth Century Farmer is an article of some length telling about "traveling bee-colonies" owned by C. I. Graham, in California. Some of the items may be of interest to the readers of the American Bee Journal, who are left to separate fact from fiction.

The renascent activity of bees depends upon the coming of spring flowers, and early in the season it is easy to move them before they have aroused themselves from the winter's listlessness. When Mr. Graham moved his bees in April, it was predicted that they would desert him by the wayside, for while bees may be moved in winter, it is generally considered impossible to move them in the active season. The difficulty was solved by traveling at night. He has a wagon the size of a flat-car with crate on it holding 300 colonies. Under cover of darkness the crate is slipped from the car to the wagon, and the bees taken to some sweet bower before daylight. When the combs are full the honey is "strained."

The same paper contains an extract from the New Orleans Times, describing the Cuban bee. It says "he" is quite different from the American bee. The Cuban bee is lazy, trifling, almost slovenly, looking like a drone when compared with the American bee.

"The Cuban bee has a sort of oxcart movement when he goes about his work. The American bee is snappy, quick, and almost electrical. Now, why is this? I have my own theory, and I base it upon the broadest principle of science, a principle universally recognized for its poteney in the shaping of character. It is a matter of environment.

"The Cuban bee has been surrounded by slow methods and awkward, crude ways of doing things. He simply reflects the life, the mannerisms and the methods about him. He is still the bee of the oxcart age, and buzzes about his business in an oxcart gait. He is a Cuban to the manor born. The American bee's industry may be accounted for in the same way. He is a natural-born hustler. He is an American, full-blooded and full-fledged."

What Do We Know About Breeding?—Several writers have had considerable to say as to the ignorance of bee-keepers with regard to anything like the intelligent breeding of bees. It is probably a fact that among the breeders of horses, cattle, swine, poultry, etc., there will not be found so much ignorance as to the laws of breeding as is to be found among breeders of bees. So it is well that of late so much has been said by way of arousing attention to the subject, albeit it may be in the wish of many that more of instruction had been given by those who find fault with the lack of knowledge. To the question: "What do we know about breeding?" the plain answer probably must be, little or nothing.

After all, are bee-keepers so greatly to blame for this? In intelligence they will probably rank with breeders of other classes, and other things being equal, they should know as much about the laws of breeding. But other things are *not* equal. The breeder of horses may make himself acquainted with the laws of breeding, and in applying those laws for best results one of his chief cares, if not his chiefest care, is to make a wise selection of the two intended parents of his future stock. Without this care in selection his efforts will count for little. In the case of the bee-keeper such selection has been considered next to impossible of accomplishment. Of what avail to study carefully just the drone that should meet a certain queen, if the control of that drone is entirely out of the question? There is excuse for the fact, if it be a fact, which is not here denied, that bee-keepers know less about breeding than the breeders of any other class of stock.

At the same time it would be a gain if more were known as to the laws of breeding. Possibly we are just on the eve of entire control of fertilization, and it would be a wise thing to prepare for it in advance. Even if we have only a very limited control of the mating of queens, it will do no harm to have all the knowledge that can be used in that limited control.

Are Long Tongues of Value Per Se?—In an able article which we copy on page 453, Frederick B. Simpson says:

"To my mind the long-tongue agitation is too much like treating a *symptom* instead of the *disease itself*. I believe that long tongues are of value only in so far as they represent an increase in vigor; or, in other words, only when such increased length is the direct result of increased *use* of the tongue, indicating greater activity and vigor."

That might be understood as meaning that in and of itself there is no value in a long tongue, only as it is a sign of other qualities, just as there is no value in the bands of the Italian only as they are a sign of special qualities possessed by the Italian. It is doubtful that Mr. Simpson meant just this, for elsewhere he says, "*Other things* being equal, I want long tongues."

Given two bees exactly alike in all other respects, one having a longer tongue than the other, and there is no question that the longer tongue would have the advantage wherever there were flower-tubes a little deeper than the reach of the shorter tongue, and yet within reach of the longer tongue. At the same time it is a mistake to suppose that the length of tongue is an exact gauge of the value of two different bees. The bee with shorter tongue may have extra diligence to make up for shortness of tongue.

Contributed Articles.

Number of Frames in an Extracting Super.

BY C. P. DADANT.

CHAS. DADANT & SON:—We take the liberty to ask you for your valued advice and experience in regard to frames to use in extracting supers. The object is, whether or not you consider it advantageous to use less frames in an extracting super than in the brood-chamber below, when the extracting super is of the same width as the brood-chamber which commonly takes 10 frames. Kindly give the number of frames you would recommend as most practical to use in an extracting super of the above-mentioned description.—JACOB WAGNER.

The combs containing honey are usually thicker than those used for brood, and for that reason apiarists have universally adopted a wider receptacle for extracting supers than for the brood-chamber. The honey-sections used generally are the 1⅞ inches in width. In an eight-frame hive, six sections are used in the width, leaving a small space for followers. In the ten-frame hive only seven sections are used, and this leaves a still greater space for followers.

In an extracting super the number of shallow frames to be used should be at least one less than in the lower story. For this reason we do not like any super frames which occupy fixed distances. We want to be able to use more or less frames, according to their condition. In an ordinary ten-frame hive, we would not begin with more than nine frames in the super, equally distanced. After the combs are built out by the bees, they are thicker, and the number can be reduced to eight in the space formerly occupied by nine. The bees lengthen out the cells and make a thicker comb out of each. There is less handling, less uncapping, and more honey. We used old style Quinby hives years ago, which contained only eight frames of brood-comb. In some of these hives we successfully harvested extracted honey on six combs Those combs therefore occupied about two inches each from center to center.

With a hive in which the combs occupy fixed distances, such a spreading of the frames would be inconvenient, and in some styles of hives it would be entirely impossible. So the loose-hanging frame hive, which has sneeringly been called a "rattle-box" by some apiarists, is certainly advantageous in this case.

In our large hives, measuring 16½ inches in width, we use a super slightly narrower—16 inches inside—and this is supplied with 10 frames at the outset. Then the number is often reduced to nine after the combs have been built out. The extra comb is employed to start some new colony in its super. It is a bait.

One has to experience the advantage of wide extracting-combs to realize fully the gain in time and honey secured by this method. It is no more labor to uncap a comb weighing five pounds, than to uncap one of the same surface weighing only three pounds. It is really easier to uncap the former than the latter, for there is no danger of running the knife into the edge of the wood of the frame, and a single stroke suffices to remove the seal from an entire side of the comb.

In inducing the bees to build thick super-combs, we are not running counter to their instincts, for they will of their own accord build very thick combs where the opportunity offers. I have measured a comb built in a corner of a box, the cells of which were 2¼ inches deep on one side, the other side being only a trifle more than the usual depth.

In addition to the advantages above enumerated, there is another advantage in the deep cells, in the fact that they usually efficiently keep the queen out of the supers, for she does not lay—can not lay—in deep cells. It is true that if she is short of room, the bees will sometimes cut the cells down to the proper depth for her laying, but this is very exceptional.

My advice for extracting frames in a ten-frame hive is to use not to exceed nine of the former, over the ten brood-combs.

Hancock Co., Ill.

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(Continued from page 422.)

No. 3.—Some Reminiscences of an Old Bee-Keeper.

BY THADDEUS SMITH.

THE Italian bee was introduced into this country about 1860, or soon after the introduction of the movable-frame hive. I have not the statistics or the history of either event before me to enable me to give the exact dates, and can speak only in a general way from recollection; but both came about the same time, and in so doing gave a new interest in bee-keeping and in bee-literature, and that wonderful impetus to the growth of the business in this country that the last half-century has witnessed.

Many persons engaged in other pursuits—some who had never kept bees, and others who had only a few colonies—now became greatly interested in the subject; and this interest led to an investigation, both theoretical and practical; and as this investigation proceeded some became quite fascinated with the business. The ease with which one could examine the internal economy of the hive with the movable-combs, and to introduce to a colony of native bees a queen of a new race and color, and seeing the natives gradually disappearing until in a few weeks they would all be gone and the new race occupying their places, afforded means of verifying and demonstrating many interesting facts in the natural history of the bee. The short life of a worker-bee in the working season was a revelation that astonished many who always supposed bees lived several years; but the ocular demonstration of this by the introduction of an Italian queen would convince the most skeptical. And so were many other facts in the history of this wonderful insect demonstrated.

This new interest in bees caused by the Italian bee, resulted in adding many new workers to the ranks of bee-keepers. Some thought they would find it a pleasant and profitable occupation in producing honey on a large scale for the market, as the Italians were said, by the vendors, to be greatly superior to the natives as honey-gatherers. Others saw a prospect of gain in rearing queens for sale at prices from $5 to $20 each; and the country was soon flooded with queen-breeders until the price got down to one dollar or less, and profits still made at that.

Manufacture of patented and non-patented hives, also sprung up all over the country. An impetus was given to every department of the business. The literary department was greatly augmented, and we had new authors of bee-books, and pamphlets numerous, and many new contributors to the bee-papers from all classes and professions, some of whom have been of great advantage and a blessing to the fraternity.

I think it can safely be said that had it not been for the Italian bee, Mr. A. I. Root would never have gotten up that interest and sustained enthusiasm on the subject that led him to give up a pleasant and profitable occupation to go into the bee-business. And just to think of the consequences! The bee-keeping public would never have seen those wonderfully interesting and instructive letters of "Novice" printed in the early volumes of the American Bee Journal. Gleanings in Bee-Culture would never have appeared; neither would that standard work on the honey-bee—the "A B C of Bee-Culture"—have been printed; nor would those great manufacturing and industrial establishments with all their various branches and departments, be in existence to-day. Under the stimulus of the movable-comb hive and Italian bee, many others were induced to go into the business who became prominent writers for the bee-papers, or large honey-producers and queen-breeders and hive patentees, whose names are worthy of record, and a sketch of their work would be interesting if time and space would permit.

The movable-frame hive caused much rivalry, and some jealousies, between the patentee and vendors, and they spoke and wrote of each other in not very complimentary terms—in fact, in language hardly admissible in polite society; but there were still more rivalry and jealousy, and bickering, between the queen-breeders and sellers of Italian queens that had now sprung up all over the country. The matter of contention was the purity of their queens and their offspring. Each party would contend that he had the only Simon-pure article, and intimate, sometimes in broad assertions, that the bees of competitors were impure and a fraud. Various tests of purity were advocated that added still more confusion to the matter. One writer, greatly perplexed over the matter, said:

"One dealer in Italian bees says 'the workers are distinguished from the natives by a yellow band around the abdomen;' another says,

'three yellow bands or rings;' a third makes the markings of the queen a test of purity: a fourth tests the purity of a queen by her progeny; and a fifth makes the very amiable disposition of the worker, or the 'impeccability of temper,' a test of purity. A person entirely unacquainted with Italian bees, after hearing the different opinions of these doctors, if he purchased a queen, purity guaranteed, would hardly know where to look for a reliable test."

As a matter of course, the writer became very much interested in these new bees. I had kept bees all my life, and as soon as I heard of the Langstroth movable-comb hive I adopted it—in 1862 or 1863, I think—and I determined to have some of these new bees.

As I have stated in another article, I came to Pelee Island, Lake Erie, in 1866, and one of the first things I did was to inquire about bees, and I found that there was only one colony on the Island, and I bought that, and went to the main shore of Ontario and bought two more colonies. These I soon had transferred to Langstroth hives. I found that the Island abounded in good bee-pastures, especially the unbroken forest of basswood, and I am a great lover of honey as well as bees.

About this time a number of breeders of Italian queens had come to Kelley's Island, Ohio, because there were no black bees there, and it was beyond the flight of black bees from the main shore, consequently they could rear pure queens without the possibility of having them mated with black drones. Kelley's Island being only a short distance from Pelee Island—just across the international boundary line—I had a fine opportunity to see these bees, and was not long in taking advantage of it. I found a number of queen-breeders there—Aaron Benedict, W. A. Flanders—"Professor" Flanders with his Apiarian Institute and bee-charm; and my friend, Charles Carpenter, one of the earliest settlers of Kelley's Island, and the first person to demonstrate the adaptability of the Island to grape-growing, was also engaged in rearing queens. I paid Mr. Carpenter $10 for two queens, fine and beautiful ones, *of course.* I got them home all right and successfully introduced them to two of my colonies.

The humorous side of queen-rearing on Kelley's Island was given by the editor of the Ohio Farmer in his paper in 1867, after a visit to the Island. He tells what he saw there as follows:

W. A. Flanders the Bee-Man.—Prof. W. A. Flanders—you may have heard of him—has his Apiarian Institute on Kelley's Island, and of course we visited his institution. Mr. Flanders has a host of bee-families dwelling in busy harmony under every green tree in the neighborhood. Talk of big prices for Merino rams! Flanders can get more money for an Italian queen-bee, with three rings around her tail, than any ram-peddler can get for the best Vermont Merino in his flock. Flanders showed us (in a vial of alcohol) one of these amiable little female sovereigns that had lately fallen in a duel with another amiable little female sovereign, for which, he declared with a sigh—which came from as low down as the seat of his broad pantaloons—that he would not have taken $60! Bugs is riz! But then the thing can be settled by arithmetic. Here are 50 other amiable little sovereigns, bred from this insect in the vial, for each of which Flanders can take from $20 to $25. The demonstration is plain—a little insect not so big as a toothpick, worth more money than a shorthorn bull! The idea would be ridiculous if it were not true. But Flanders has improved upon the original Dr. Jacob Townsend, and instead of being satisfied with the orthodox full-blood Italian with three rings, has gone one better, and showed us a queen of his rearing with four rings around her body, all of the royal purple and gold."

(To be continued.)

In-breeding—If Practiced, it Should Be Sparingly and With Good Judgment.

BY FREDERICK B. SIMPSON.

IT is to be regretted that those friends who have been foremost in agitating the subject of in-breeding, have not yet gone beyond vague generalities, and given us some specific information which would be of direct benefit to the practical bee-keeper. In this connection Mr. A. C. Miller, in May 1 Gleanings, might well make his requirements for a successful queen-bee breeder more complete by adding a college education as another requisite. There is no possible doubt about the great aid these requirements would prove to the queen-rearer; but is it not very exceptional when a bee-keeper possesses all these requirements, and is it not a little unfair to predict failure for all except the exceptionally favored? Is not the commercially successful bee-keeper and queen-rearer practical rather than theoretical, commercial rather than scientific? And can not the best results followed by those who have the educational advantages which make it possible for them to be familiar with the general laws of biology, and therefore strong on theory but in many cases being prevented from being broadly practical (on a large scale) by reason of occupation or circumstances—can not these students formulate plans based on scientific truth, which the practical man can use as a basis for systematic breeding, making such modifications as future results may indicate—such results to be made known to these students that they may be able to continue to give what aid lies in their power?

In this manner a systematic method followed by a practical man who thoroughly understands all the practical methods of queen-rearing, and who can secure the greatest yield of honey from the greatest number of colonies with the least manipulation, and who can have the best knowledge of the qualities of each individual queen—this man should be able to make the greatest success of queen-rearing and should be able to rear queens so skillfully that no large honey-producer could afford to do anything except requeen from such bred stock. To the end that some such method may eventually be formulated, I will contribute my mite by saying some things about in-breeding; although be it understood from the start that I do not believe we will ever get any really conclusive knowledge on this subject except by *actually breeding the bees*; the more so from the fact that we have nothing in the nature of a domesticated animal which forms any real parallel to the bee.

Herbert Spencer says: "Remembering the fact that among the higher classes of organisms fertilization is always effected by combining the sperm-cell of one individual with the germ-cell of another, and joining with it the fact that among hermaphrodite organisms the germ-cells developed in any individuul are usually not fertilized by sperm-cells developed in the same individual, we see reason for thinking that the essential thing in fertilization is the union of specially fitted portions of *different* organisms. If fertilization depended on the peculiar properties of sperm-cell and germ-cell, as such, then in hermaphrodite organisms it would be a matter of indifference whether the united sperm-cells and germ-cells were those of the same individual or those of different individuals. But the circumstance that there exist in such organisms elaborate appliances for mutual fertilization shows that unlikeness of derivation in the united reproductive centers is the desideratum."

Mr. Darwin says: "I will venture to add a few remarks on the general question of close interbreeding. Sexual reproduction is so essentially the same in plants and animals that I think we may fairly apply conclusions drawn from one kingdom to the other. From a long series of experiments on plants, given in my book, 'On the Effects of Cross and Self Fertilization,' the conclusion seems clear that there is no mysterious evil in the mere fact of the nearest relations breeding together; but that the evil follows (independently of inherited disease or weakness) from the circumstances of near relations generally possessing a closely similar constitution. However little we may be able to explain the cause, the facts detailed by me show that the male and female sexual elements must be differentiated to a certain degree in order to unite properly and give birth to a vigorous progeny. Such differentiation of the sexual elements follows from the parents and their ancestors having lived during some generations under different conditions of life.

"The closest interbreeding does not seem to induce variability or a departure from the typical form of the race or family, but it causes loss of size, of constitutional vigor in resisting unfavorable influences, and often of fertility. On the other hand, a cross between plants of the same subvariety, which have been grown during some generations under different conditions, increases to an extraordinary degree the size and vigor of the offspring.

"Some kinds of plants bear self-fertilization much better than others; nevertheless it has been proved that these profit greatly by a cross with fresh stock. So it appears to be with animals, for Shorthorn cattle—perhaps all cattle—can withstand close interbreeding with very little injury; but if they could be crossed with a distinct stock without any loss of their excellent qualities, it would be a most surprising fact if the offspring did not also profit in a very high degree in constitutional vigor."

Until we can get some absolute proof that these arguments are untrue in the specific case of bee-breeding, it would seem unsafe for any queen-bee breeder to do any in-breeding with the intention of selling the resulting stock; but only as a matter of research until some absolute proof could be obtained by experimental work through several generations of bees. Few queen-bee breeders will

consider that they can afford to do even this amount of experimenting in view of the fact that outcrossing has none of the objectional features in the public mind that in-breeding possesses.

One of the bottom facts of in-breeding is, that *Nature* never does it unless compelled to. It is more than likely that in-breeding as originally practiced by man, and in the majority of subsequent cases, has been largely due to the same cause—the absence of an unrelated individual at the time. Also the fact that in distinct breeds, uniformity can usually be accomplished quicker by in-breeding than by outcrossing (where breeds are dependent upon one or a few characteristics, of which vigor, fertility and size are among the least essential) which is a very considerable incentive where it takes several years for an animal to reach maturity. But with bees these two propositions would seem entirely inapplicable; for we seem to be able to obtain an ample number of unrelated individuals of equal value with which to outcross, besides which, the vast number of generations that can be obtained in a short time renders the second reason of little or no force.

Writers in bee-journals have been so prone to allude vaguely to in-breeding in Jersey cattle, and in trotting-horse pedigrees, that a few words on these subjects may not be out of place here, although there being nearly as much pro as con, we can expect little new truth from these sources; especially as in the one case there is almost no parallel to bee-breeding, whereas, in the other, the breed has not been established a sufficient time to secure any amount of uniformity.

The Jersey cow possesses a pleasing color and form—with the frequent exception of her degenerated horns which often require an expert to trim them to a regular shape—and at her best gives a very large quantity of very rich milk, of which a comparatively small amount is required to make a pound of butter or cheese. These are the principal qualities in which she differs from other breeds, and to which she owes any peculiar merit she may possess. To offset these she is very nervous, undersized, very subject to disease and to great mortality in disease, besides which she is extremely deficient in the regular bringing forth of living offspring; and so far as I am able to ascertain, no outcross has yet been found equal to those outcrosses of other breeds in which the Jersey is not a factor. Her good qualities have evidently been brought about at the expense of vigor, fertility and size, for which it seems evident that in-breeding is responsible.

But is the Jersey a fair comparison? Nature so situated her in the narrow confines of a small island where eventual in-breeding was inevitable, and therefore is it not possible that Nature endowed her with some inherent power by which the evil effects of in-breeding would be mitigated to a certain degree—sufficient with the aid of skillful selection on the part of man, to preserve to us a breed which if left entirely to Nature would have long ago become extinct? For on an island of such fertility that animals are staked out instead of being turned loose for pasturing, it would naturally follow that the greatest personal care and attention would be bestowed on such animals so continuously handled.

Then, too, the pedigrees of renowned Jerseys abound in renowned ancestors to so great an extent that it is practically impossible to find a line of demarkation between what has been the result of in-breeding and that which is due to skillful selection independent of in-breeding. And if it had been possible to breed these animals with as much care, to equally desirable unrelated animals, is it not reasonable to suppose (see the quotation from Darwin) that equally good results would have been obtained, not only at no expense of these qualities, but even with an increase in vigor, fertility and size?

With regard to trotting-horses, the general proposition will be found to be true that where in-breeding exists in a good individual that is able quite uniformly to transmit his good qualities to his offspring, such in-breeding is merely an *incident* of locality or opportunity, and is seldom close, whereas the *real* cause of quality is skillful *selection*. Then, too, the sources of trotting families are comparatively few, which renders the incident of in-breeding more frequent than in many others. But this in-breeding, when successful, is seldom *close*, and, therefore, has but little effect. When trotting-horses were a "fad" they were largely bred with no other quality than that of speed, so that, although speed was often obtained, where we failed to obtain it we had only a failure that did not possess enough other good qualities to make it valuable. But as soon as the "bottom dropped out," the lesson was learned, since which time our greatest aim has been to produce such an animal as will possess that balance of qualities which will make him the highest typical representative of his species. At any rate we quite uniformly get a high type of *horse*. If his speed and racing quality are sufficient, we have that which, from our standpoint, is the most valuable. If not of this high grade there may be sufficient quality for a first-class roadster, or an excellent carriage-horse; lacking this, the barbarously inclined can cut off his tail, blindfold him, and, by training on an inclined plane, behold the highest type of English Hackney! And, finally, if some physical injury should occur we will, often, still have a good individual to breed from.

From all the observations I have personally made where we have done any close in-breeding, in trotting-horses, I am led to believe it is a total failure; except, perhaps, in exceptional cases where two individuals somewhat over-sized, with a tendency towards coarseness, possessing exceptional fertility and vigor, and having immediate ancestors which have uniformly inherited these characteristics for several generations; these individuals, being possessed of about an equal balance of other good qualities, but the good qualities of the one being the complement of those of the other, and vice versa, which qualities should be proved to be hereditary in each pedigree so far as possible. Besides this, the common ancestor, or ancestors, must have proved to be the most successful cross in each case for that animal with which it was mated. Whenever such a case presents itself we will try in-breeding, but in no other.

Here are some cases that have come under my observation: A mare so mated that her offspring had but one grandsire, has uniformly given undersized animals of too fine bone and of no great merit in any respect, although both parents were individually excellent. A stallion that had but one grandsire and whose granddams were half sisters, was quite a fair individual but not possessing any great amount of speed or exceptionally good gait, although apparently physically in perfect health. On examination he was found to secrete not over ten percent of the number of spermatozoa that an average horse did; and it was found that, compared with his chances, he produced not over five percent as many offspring as the average horse. I have not been able to get any information concerning his offspring, but would not be surprised if they proved *absolutely sterile*. Of course, there is one chance in a million that this was due to some unknown cause, but I gave the case sufficient study so that I am satisfied that it was solely due to in-breeding.

Does it not seem reasonable to believe that, in general, in-breeding can be successful only in cases where the merits of the breed depend very largely on only one, or a very few, qualities for which we can profitably sacrifice to a considerable extent, vigor, fertility and size?

In the trotting-horse we can not afford to do this, for we want the best type of horse which is not dependent upon any one or a few qualities. Is not the bee somewhat similar? Will not the best bee get the most honey? Is not the best bee the one that possesses the best balance of good and bad qualities without any necessarily prominent showing of any one quality? The qualifications of a good bee are so complex and variable as to locality, and so interdependent upon each other, that it is very difficult to differentiate them; but, given a good "all round bee," and it is very likely that she will prove herself better in any locality than one that is bred for any one particular quality.

I have written the foregoing on in-breeding, simply because none of the regular contributors to bee-journals have yet shown any desire to give us any specific aid on this subject; and some one should start the ball rolling no matter how incomplete the start may be. Can not those who have had extensive experience in breeding other animals, give us the benefit of their experience and opinions?

Other things being equal, I want long tongues, but if I were rearing my ideal of a bee for sale, the "long-tongue" part of my advertisement would be in smaller type, while with great "scare heads" I would proclaim "Superior Suckers." Above all, I want a bee that can suck and carry as large a load as possible, or else make it up in increased number of loads. To my mind, the long-tongue agitation is too much like treating a *symptom*, instead of the *disease itself*. I believe that long tongues are of value only in so far as they represent an increase in vigor; or, in other words, only when such increased length is the direct result of increased *use* of the tongue, indicating greater activity and vigor. Doubtless the direct issue of the original (priced) queen possessed this increase, but is there not

some question whether the length of tongue may be transmitted without any correspondingly increased vigor, and therefore increased ability to use it?

In conclusion, my opinion, based on the above points, is as follows: Whenever a colony of long-tongued bees is superior to a colony of bees with shorter tongues, as shown by the gathering of nectar from red clover, such superiority is due to increased vigor, which (other things being equal) shows that the greater length of tongue is due to increased use of, and energy in the use of, that member, usually through several generations, it being apparent that it takes more energy to use a long tongue than a shorter one. It naturally follows that in a locality, or at a time when red clover fails to yield nectar, this increased energy of the

HOME APIARY OF GEO. B. WHITCOMB, OF LINN CO., OREG.—See page 450

long-tongued colony will not go to waste but will be used to advantage in the more rapid storing of more easily reached nectar, regardless of its source. And it is quite pertinent to the subject, that the colony which has given me the most nectar to date, this season, from fruit-bloom, contains by far the longest-tongued bees I have, many having a reach of 22-100. And this also is a point in favor of my idea that the best bee is the best regardless of locality.—Bee-Keepers' Review.

Fulton Co., N. Y.

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Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Catching a Swarm on the Wing.

Is there any way of catching a swarm of bees after they leave the tree they first settled on? If so, what is the quickest and best way? MINNESOTA.

ANSWER.—I suppose you mean is there any way to stop a swarm when it has started to leave. It isn't the easiest thing in the world, but it is always worth trying. Perhaps the best thing is to take a looking-glass, run ahead of them, and reflect the sun upon them. That has been reported successful in driving them back in a number of cases. Some, however, will tell you that a better plan is to have a spray pump and throw a good shower of water upon them.

A Small Queen—Thick Combs.

1. I divided a strong colony of Italians in fruit-bloom, as you suggested some time ago, and the queen-cells started were all small. I left the largest ones, and, when hatched, the queens were not much larger than worker-bees, and leather-colored. I killed one of the queens and put the nucleus back into the old hive, and left the queen in the other division. The queen is two weeks old, and has not commenced to lay yet. Would you advise me to remove her and give them a larger queen? The old colony swarmed two days after I put the nucleus back, and the queen-cells started are large; the queen looks sleek, and is large like her mother.

2. I have considerable trouble getting straight combs, most of the frames having brace and burr combs on them. I don't think the frames were spaced properly when first put in. Would you advise buying an extractor, uncapping the deep ones, spacing the frames over again, and feeding sugar early in the fall? Would it pay me to get an extractor? I am running for comb honey and have eight colonies.

NEW YORK.

ANSWERS.—1. If a queen does not begin to lay till after she is two weeks old, she will generally turn out very poor, and you will risk very little to kill her.

2. It might pay you to get an extractor, but not for the sake of straightening out your combs. Neither do you need to take any such trouble. If the center of the comb is in the center of the frame, and some of the combs are too thick (which I understand is the case), all you need to do is to keep crowding the combs together a few times on different days. The bees will trim off the parts that touch, all but a few points of attachment which you can remove, and a few operations will make all right. But you will be likely to have some brace-combs in any case.

Finding the Queen, Etc.

I have a very strong colony in an 8-frame hive which I wish to divide and can not find the queen, having looked the frames all over five different times. They have about seven queen-cells, most of them being capped.

1. What is the best way to find the queen?

2. Will a colony swarm if it has laying-workers in the place of a queen?

3. Will the bees build more drone-comb in the spring than in the early fall?

4. Can I divide, and use queen-cells? ILLINOIS.

ANSWERS.—1. Usually all that is necessary is to look somewhat carefully over the frames. Avoid the use of much smoke, for if you smoke the bees till you get them to running, you may about as well give up finding the queen till another time. If you do not find the queen after looking over the frames once or twice, better close the hive and leave them for half an hour or longer. For the queen has probably hidden in such a way that it is impossible for you

to see her, and she will stay hid till the hive is closed up and all is quiet. It may help to put the frames in pairs, using a different hive for each pair. After waiting a very few minutes, you may confidently expect to find the queen between the two frames in one of the pairs. Lift the one nearest you, and as you do so keep your eye on the nigh side of the frame in the hive, and then examine the farther side of the one in your hand. If you wait long enough, you can tell which pair of frames has the queen, for the bees will show uneasiness, as if missing the queen, in the pairs where she is not.

If you want to make a sure thing of it, use a queen-excluder. Take an empty hive body and put into it one of the frames of brood, after getting all the bees off, or at least enough of the bees so you are sure the queen is not on the comb. Put a queen-excluder over it, and over that an empty hive body. Now brush into this all the bees from the combs, and if they are too slow in going through the excluder into the empty hive below brush or smoke them a little. The queen, not being able to pass through the excluder, will be left in the upper hive.

Often in an ordinary search the queen will escape detection by being among the bees on the side or bottom of the hive while you are wasting your energy by looking over the combs.

But you can not find a queen when none is in the hive, and "seven queen-cells, most of them being capped," forms a ground for pretty strong suspicion that the colony has swarmed and that the queen is gone.

2. You need not fear swarming with laying-workers in place of a queen.

3. Probably.

4. Yes.

Swarm Deserting the Hive.

I have one colony of bees that has acted strangely this spring. It swarmed on Monday while I was in the field, and got away. Then the following Saturday the bees were acting all right at the hive in the morning, but at 11 o'clock, when I came home from town, there were bees all over the house and trees. We sprinkled them with water and they went to the hive, and about 2 o'clock they came out. We put them into a new hive, but about dark they came out again, and we could not find them. We watched them, and the next day about 3 o'clock they came up out of a plum thicket, and went in the direction of the others, right against a strong wind. The last I saw of them they crossed through a hedge, and no one has seen them, so far as I can learn. I have kept bees for years and never had such luck. Now it is a week since the last ones went, and they are acting as if they are going to swarm again. Do you think there were two swarms, or did the first one come back? Why did they not stay in the hive, as it was a new one and is all right, as far as I can see?

SOUTH DAKOTA.

ANSWER.—The probability is that the first time they swarmed it was a prime swarm, and then on Saturday there was a second swarm, the only unusual thing in the case being that it was only five days from the first to the second swarm. If that supposition is correct there will be no more swarming, and the bees are hanging out because the weather is hot and the hive close. When you hived the swarm you ought to have raised the hive and left the cover partly open. They left because it was too hot and close for them.

Swarming Questions.

1. Suppose a colony swarms during the honey-flow, and the old clipped queen is taken away, how many days before the old colony will swarm again?

2. Is the young queen of the old colony fertilized before the second swarm issues? ILLINOIS.

ANSWERS.—1. Generally in about eight days, but if the weather had been severe for some days before the time of the first swarm so as to delay it, that would make the time just so much shorter from the time of the first to the next swarming. If the first swarm should occur before the usual time (at the sealing of the first queen-cell) the second swarm would be delayed to that extent.

2. No. When the second swarm issues, a young queen issues with the swarm, and the young queen that is to reign as the mother colony is still in her cell, so of course could not be fertilized.

Some Swarming Troubles.

Will a colony of bees swarm without a queen? I assisted my father in hiving two swarms of bees this spring. The first swarm we put into a clean new hive with foundation ready for work. They stayed three hours and then left the hive, and we hived them three times in the course of the day, and each time in a new hive. The third time they moved out as quickly as they would, all right. We looked them over and could not find the queen, and before we could hive them again they all started for the timber.

The second swarm we hived twice, and the third time we put a comb of honey in the hive and shut the entrance, and put them down cellar over night. The next morning they were all dead but about a pint, and we could not find a queen among them. What do you think was the cause?

"LAURA."

ANSWER.—I knew one case in which a swarm issued when there was no queen in the hive. But I had removed the queen from the hive only a short time before, and I suppose the bees had not yet learned of her absence. So it is safe to say that a swarm will not issue from a hive without they have, or suppose they have, a queen present. But even should a swarm issue in such *very exceptional* case without a queen, they will not go off without a queen, but will return to their hive or to some other hive in the apiary. It is not always easy to find a queen in a swarm, and the likelihood is that there was a queen present.

The probable trouble was that the weather was very hot and you did not shade and ventilate the hive. Putting that swarm in the cellar was not a bad stroke, but you probably shut them up so tight that they smothered. After putting them in the dark cellar you should have given them a very large entrance, raising the hive well. A frame of brood is better than a frame of honey to give to a swarm.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

FINGER-ITCH FOR RECONSTRUCTING.

What shall be done to me for my everlasting meddlesomeness? Can't see a good thing without finger-itch to see if I can't make it better by reconstructing it. Now there's the striking verse on little neglects, which W. Z. Hutchinson quotes to open his excellent paper on page 327. I want it to run:

"For the want of a nail the shoe was lost;
For the want of a shoe the horse was lost;
For the want of a horse the rider was lost;"
And a friend his slain friend did bewail
When he might have been saved by a horseshoe nail—
And, if that rider had been De Wet,
A nation lost in the end we'd get.

STING-POISON IN HONEY.

And so (according to page 334) in each 62 pounds of honey the bees put an *ounce* of sting-poison. The German writer didn't think of the thing in that shape, or the enormity of the pilgrim lie would have halted him from passing it on. Although it is the same thing, it *looks* much more believable to say 0.1 percent. For all the bad company it is in, the statement that sting-poison is probably a non-volatile alkaloid dissolved in volatile but rather harmless fluids, may very well be correct. But even on that we must remember that breathing the volatile part has a very bad effect on some persons.

DEEP-TUBED ALSIKE AND WHITE CLOVER.

E. R. Root contributes a good point in a red-hot controversy when he says he has seen both alsike and white clover too deep-tubed for average bees to fully reach bottom. Page 343.

PARTHENOGENESIS.

It was more than a hundred years after Columbus sailed before so wide-open and vitally important a truth as the circulation of the blood was discovered! It's amazing. And one of the constituents of the atmosphere remained undiscovered until the American Bee Journal had become an old paper. Why should man, a reasoning creature, be so great in fantas-

tic uses of his reason and so small in common-sense applications? We need not specially wonder, therefore, that Parthenogenesis among bees was late in being discovered, or that an occasional "Thomas" turns up even now. Page 359.

NOVEL PARTNERSHIPS.

It is a little in the line of a novelty to find four families in joint ownership of a cow. And eight families each taking a different magazine, and passing it on weekly are certainly getting a great deal for a little money—if the partnership is not wrecked by some wrong-doing of its sailors. When souls are sufficiently cultured, Prof. Cook, many new, as well as old, partnerships can be sailed without wreck and without injustice. A family worship with the scripture lesson recited instead of read is certainly a remarkable and pleasant novelty. Page 361.

MOVING WIDE-OPEN HIVES WITH BEES.

Glad to see A. D. D. Wood advocate liberty for bees while being hauled from place to place. I have seen a little of this. Possibly it may not be practical for a big two-horse wagon load; but for one or two colonies to be taken in a buggy I am quite sure it is much the better to let them have their door wide open. Smoke them just enough before starting, and keep the smoker ready for action on the road. Page 363.

SHOOTING SHOT INTO SWARMS.

Shooting charges of fine shot through a high-minded cluster till the queen is killed and the cluster broken up—well, it is somewhat ingenious; but I do not understand it to be preached for general practice. Certainly not "twen. cen." Interesting to see they could not be jarred lower by any kind of hunting. Cousins to my bees, I reckon—and swarms have been unusually high-minded the present season. Page 364.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

ORDER.

I doubt if "Order is heaven's first law;" but I have no doubt that it is so well up to the front that whoever first asserted it got nearer the truth than most of us do. A more homely phrase was sounded in our ears, or ought to have been, even from the cradle, viz.: "A place for everything and everything in its place." I wonder if more energy is lost anywhere else in life's experience than in looking for things. We put things anywhere, and must, as a consequence, look everywhere when we want them. What a saving to the world if in all our home circles were taught order.

I have an assistant in my laboratory. He is a gem. First, he is a model of industry—always at work, and at good work. How much that means in any life. Yoke such habit to any life and that one becomes a rich storehouse of precious truths. More, my assistant is a very scholarly man. He graduated at the Indiana University, took a second degree at Stanford University, and last a Ph. D. at one of the German universities, and yet he was of a family of no wealth. What a glorious country. I mean *glorious*, as much as that word means. A poor boy of parts can secure, all unaided, the best education. It seems to me that were I to live my life over again, I would do just as Dr. Shaw did. Life is too good a thing—too responsible, as God looks at it—to be entered into with any but the best preparation. Yet Dr. Shaw's culture is not his most telling characteristic. He has system in all his work. Our laboratories are large. We have apparatus with all kinds of reagents, stains, instruments—hundreds of things. At a minute's notice Dr. Shaw invariably places the desired thing right in my hand. Little time is lost in hunting for things in our work-rooms.

We often wonder how some people can accomplish so much. The secret lies in just this habit of order. No home circle can afford to minimize its importance. Has each of our children his room, his drawers, his closet? Do we as mothers, and fathers, look to see that these are always in order? We may sometimes think that this takes time and effort, that we in our hurry and press of life's burdens can ill-afford; but for our own good, for our own future peace of mind, we can not afford to neglect it. The very success of the dear ones God has given us may turn, very likely will, on just this point.

It is often said that the competition in life is constantly becoming more and more severe. That likely is true. But it is even more true that the competition is very slight among those thoroughly prepared to do the work that comes to them. And in almost all lines the habit of perfect order, of thorough system in all work and action, will stand up among the first in importance.

I have no hesitation in saying to any young man, "You need have no worry—not the least anxiety—as to a good position in any line of useful work, if you are well fitted. In all lines the thoroughly competent man is at a big premium.

Let us all work to inspire our dear children to this perfect preparation. Urge early that they know how to do, that they shall be interested, enthusiastic to do their best, their very best, in all their work. And never neglect to teach them that if order is not success's first law, it is a very close second.

A very able and successful college president once said to me: "I can go into my library in the dark and take down any book I may wish to use." I always wondered if he could. Yet I knew him well, and if he were not wholly correct, the assertion marked a characteristic which did much to lift him to the high position which he so successfully maintained for many years.

PETS.

In our busy lives, I wonder if we are as careful as we should be to see to it that our homes are cheered and enlivened by numerous pets. We have two little kittens now in our home. They are so full of their antics that they have won all our hearts. We all are so thoroughly interested in them that they receive very careful consideration. Nothing in the home is too good for "Kitty Clide" or "Kit Carson." I often wonder as I see people harsh to their faithful horses and cattle, what their bringing up was. Did they have pets when little? and were they led to care for them as our wee kittens are cared for? I doubt if in our country the watch-dog is of much account as a watch-dog. I am as sure that mousing is not the kitten's best use. Then let dog or cat, horse, cow or bird, have its best use in awakening and developing the sympathies, in quickening the affections and calling out that love and thoughtful care that is the best establishment in any life. Is it Eliza Cook that says in speaking of our pets of the home?

"And if to us one precious thing
Not theirs—a soul—is given,
Kindness to them will be a wing
To bear it up to heaven."

I have a feeling that my horse and cow are happier and feel safer when I am around. I know they are a pleasure to me, and that I am a better man for caring for them. Even the ants have pets in their homes, and they are the wisest among insects. May we not say truly that the wisest people will have numerous pets for their children?

KIND WORDS IN THE HOME.

I know of one of the most spiritually minded Christian ministers that I have ever known, who believes that if we brought up our children as we should, they would need no change of heart. They would be right-minded and true to the sweetest and purest in life from childhood up. I wonder if harsh, unkind words are ever in place in the home. The ones who have influenced me most sweetly and truly never come at me with harsh look or bitter speech. I have taught school ever since I was fifteen years of age. I never yet used a whip. I have sometimes lashed with my tongue. I have often wondered if such scourging was not almost always evil. I have a sort of theory that if we have love enough for our dear ones, we may push the harsh word and fault-finding tone out of the house, to the betterment of all left within. But we must be sweet ourselves always if we would win by this better way.

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once, if you want a copy of this song.

To Our Shippers.

About May 1st last, we removed our business from the buildings 120–122 W. Broadway to larger and more commodious quarters at Nos. 265–267 Greenwich St., and 82, 84, 86 Murray St., and we duly sent to our friends in the trade a notice of our removal. Shortly after we vacated the premises (120–122 W. Broadway,) one Joseph M. McCaul, rented a portion of our old quarters, and hung out a sign, "Hildreth, McCaul Co., Jos. M. McCaul, Prop.," with other large signs to the effect that his business is "headquarters for honey, beeswax, maple sugar and maple syrup."

The mercantile agencies report that Jos. M. McCaul is the sole proprietor of the new business, and that he claims to have paid to one Henry P. Hildreth (who has no connection with our business,) a consideration for the use of his name.

We will not comment upon the act of leasing our old quarters and exposing thereon the sign, "Hildreth, McCaul Co.," further than to state that we have instructed our attorneys to apply for an injunction restraining the said McCaul from using the name of "Hildreth" in connection with his business in any manner whatsoever.

We value highly the good name and business we have established by many years of satisfactory dealing with our friends in the trade, and we therefore send this notice so that you may not possibly confound us in any manner with the so-called "Hildreth, McCaul Co."

Our firm name remains as heretofore, and all our business is carried on at our new quarters—

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GENERAL ITEMS

Bees Doing Well.

Bees have been doing well since June 1. I have a hive on scales which is 130 pounds heavier now than it was then; the colony has had extracting-combs to store in, and has not swarmed. There have been four days when the bees of that colony stored 8 pounds per day. The honey is very fine, being all from white clover.

Swarms have issued from all colonies worked for comb honey. J. L. STRONG.

Page Co., Iowa, June 28.

Bees Working on White Clover.

We have had a busy time this spring and summer looking after our fruit and our apiary.

I put 25 colonies of bees into the cellar last fall, and took out the same number this spring, most of them in fine condition. Three or four of them were a little weak, but I soon strengthened them by feeding for a few days, and the early bloom helped to get them in good condition. The bees throughout this part of Iowa were extra-strong in numbers when the white clover came into bloom. I believe we are having the heaviest crop of white clover we ever had in the State, and the bees have been making it count, both in swarming and in storing fine honey.

J. W. SANDERS.

Marshall Co., Iowa, July 4.

Swarms Selecting a Home—Uniting.

I have been handling bees for about three years, commencing with three colonies which a good friend gave me. I got the "A B C of Bee-Culture," Dr. Miller's "A Year Among the Bees," Prof. Cook's work on bees, and several other books, and also subscribed for the American Bee Journal. I now have about 60 colonies, and find the study a most interesting one.

I make all my own hives. The first year I made box-gums, 14x12 inches, inside measure, and 10 inches deep. The style of hive I am now using is $14\frac{3}{8}$x$12\frac{1}{8}$, and $9\frac{3}{8}$ inches deep, inside measure. A larger hive than this it would take the bees two years to fill up below, as this is no bee-country.

On pages 357 and 358 of the American Bee Journal I find an article by A. P. Raymond, on swarms selecting a location, and whether they select it before or after they issue. Of course, every bee-keeper has his own opinion on the subject; I will not express mine, but I will relate a freak of my bees along this line. I was in my apiary about 10 a.m. when a swarm issued. After the usual excitement about half of the swarm clustered and the other half took to the woods. This confused me a little, but I finally concluded to hive the part that had clustered, thinking that perhaps the queen was just as likely to be with them as with the part that had left. After hiving them I decided to follow in the direction the runaways had gone, hoping that I might locate them in a small piece of woodland, where they were last seen. After hunting for some time I found what I took to be my runaways up in a large poplar tree, going in and out of a knot-hole. This tree was on a bee-line from the hive they had just left.

I went home regretting the loss of the bees, but consoling myself with the thought that I had half of them at home safely hived. Everything went along smoothly until about 2 or 3 o'clock in the afternoon, when this half-swarm came forth in great excitement, and after circling about for a few minutes they, too, took to the woods, and in the same direction the first ones had gone. It occurred to me that they were making for the same place, so I kept pretty close behind them, as the distance was not over 300 yards, and along an open route. They finally reached the old

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Note the Date of these Testimonials:

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The 11 Adel queens are beauties. The BREEDING QUEEN is the finest queen I ever saw, and I have bought queens from 11 of the most prominent queen-breeders in the land. At present the Alley queens are ahead for bees, honey and gentleness. G. W. CARTER.

ASTOR, IND., June 17, 1901.

The Adel bees beat all I have in the yard. Just took off 48 one-pound sections, and there are left two more supers half full. This colony has the largest force of bees in my yard, and shows no indications of swarming.

ISAAC GRUBB.

PINE CITY, MINN., June 21, 1901.

The Adel queen you sold me last year is very prolific. Her bees are the gentlest and best honey-gatherers I ever saw. Shall soon send you a large order. PETER SONERSON.

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poplar and joined the others. Then I was convinced that the bees I first found in the poplar tree were my runaways.

Bear in mind that it was 10 or 11 o'clock when the first swarm left, and 2 or 3 o'clock when the others joined them, making from 4 to 6 hours between the leaving of the first and the second lot of bees.

Now, then, here is an instance which contradicts both theories, one about bees first clustering to let the queen rest, and the one in regard to their selecting their future home before swarming, as one-half of the swarm clustered and the other half "*lit out*" without clustering.

My opinion on the subject, based on my own experience and what I have read, is, that whenever they do select their future home it is before swarming: but I think they very frequently issue without having selected a home. My experience has been that about one swarm out of every 25 leaves without clustering. A friend of mine, some distance from me, tells me that his bees acted very strangely this year, nearly every other swarm leaving without clustering at all.

Mr. Raymond says—or at least we are to infer that he says—that the virgin queens can and do always fly without having to rest, and that it is the old queen that the swarm has to give time to rest. I had supposed from my own experience that just the reverse was true, for I have frequently found a young queen trying to fly and join an after-swarm. Sometimes they could not rise, and I have occasionally picked them up and either put them back into the hive or into a bottle until I could hive the swarm, and I would release the queen as the bees were going in. But I do not remember ever seeing a prime swarm with a queen that had to be assisted or cared for. One thing is certain, and that is, that with each prime swarm there is an old or fertile queen, and with after-swarms there is a young and unfertile queen. I have frequently found such a queen hopping about in front of the hive trying to fly, and have returned her to the original hive. There is no telling how many such queens get lost or destroyed, for the hive is often too high for her to crawl back to the entrance.

As the subject of prevention of swarming seems to be an all-important one now among bee-keepers, I would like to ask why it can not be done in the following way: Whenever an after-swarm issues, manage to catch the queen and either bottle her up for use somewhere else, or destroy her, and return the bees to the old hive, where they will be received without any doubt. Does this not prevent increase and swarming in a very simple and practical way, as we know the bees will not leave without a queen?

I notice that some writers claim it to be a very simple thing to unite two small colonies successfully where each has a queen, but I have not found it so. It is anything but simple and easy. Of course, I can do it, but they go to fighting and killing each other, and that I dislike more than anything I know, unless it be to crush a lot of bees myself when working with them.

I wish some experienced bee-keeper would reply to this, and at the same time give the

QUEENS!

Having caught up with my many orders at last, I am now prepared to send **LONG-TONGUED RED CLOVER QUEENS** by return mail. My bees cannot be excelled for beauty and for honey-gathering qualities.

This is a Post-Office Money Order Office. Remit 65 cents and get one of the nicest and best Queens you ever owned, from the Queen Specialist—
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Six month's Bucks, $2.00, to make room for young stock.
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to fill orders promptly for Untested Queens reared from a breeder of the HUTCHINSON SUPERIOR STOCK, or a select GOLDEN breeder, and mated to Golden drones, at 75 cents each; $4.00 for 6, or, $7.50 per dozen.
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W. H. PRIDGEN,
22Atf Creek, Warren Co., N. C.
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We have a small quantity of Catnip Seed which we wish to offer our readers. Some consider catnip one of the greatest of honey-yielders. We will mail to one of our regular subscribers **one ounce** of the seed for sending us ONE NEW subscriber to the American Bee Journal for a year with $1.00; or will mail to any one an ounce of the seed and the American Bee Journal one year—both for $1.30; or will mail an ounce of the seed alone for 50 cents. As our stock of this seed is very small, better order soon.
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105 Park Place, - NEW YORK, N. Y.
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ALBINO QUEENS If you want the most prolific Queens—If you want the gentlest Bees—If you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.
11A26t **J. D. GIVENS, Lisbon, Tex.**
Please mention Bee Journal when writing.

The Emerson Binder
This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.
GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

best plan to unite two or more weak colonies, where each has a queen and some comb and honey. I desire to unite some of mine before fall, as that is the only way I know of to prevent the moth and miller from destroying them. According to my experience, no beekeeper can have his colonies too strong, whether he is working his bees for profit or pleasure. The stronger the better, and one extra-strong colony is worth about three ordinary colonies, everything else being equal. Such a colony will be able to give the owner more honey than three weak ones, which are almost certain to be destroyed by the moth along in July or August. I have seen some weak colonies build up to a respectable size, but it was a hard pull before they stored any surplus honey, and it is the surplus we bee-keepers are after, I believe.

JOHN KENNEDY.

Adams Co., Miss., June 12.

Winds Cut Honey Crop Short.

Our crop is about 20 or 25 pounds to the colony of extracted honey. Hot, dry winds dried up the basswood and clovers on short notice this year. F. F. ZILLMER.

Grant Co., Wis., July 6.

A Downpour of Sweets.

Williamson County, in which we did not drown the elephant last spring, is now receiving a heavy downpour of sweets, and we believe that the flow now on is the heaviest since 1897 or 1898. We have every prospect that it will continue until frost. Bee-keepers are smiling a regular "bee-smile."

O. P. HYDE & SON.

Williamson Co., Tex., July 6.

Long-Tongued Queens and Red Clover.

Considerable has been said, *pro* and *con*, about long-tongued queens. Why not get some red clover seed from Swedeu? A man who was born there told me that the bees work on red clover there all the time.

Bees are doing pretty well now. There is lots of white clover, and it is full of nectar.

A. ANDERSON.

Greene Co., Iowa, June 25.

Outlook Discouraging.

The outlook for a honey crop in this locality is very discouraging. It has been so dry, and there have been such hot winds, that there are scarcely any flowers in bloom, although the bees are bringing in some honey from alfalfa.

A good many colonies starved to death last winter. The spring was cool and wet until about May 1. There is some surplus being stored along the creek bottoms, but none in the uplands. R. C. SUPPE.

Woodson Co., Kans., July 6.

Losses Heavy—Large Yields Per Colony.

Our losses were heavy last winter. On account of the mild weather bees flew most of the time, and therefore became aged, and died from spring dwindling. I lost 25 out of 150 colonies in this way, sold 25, and 24 were queenless, leaving 76, spring count, as none that were queenless have built up so as to store any surplus.

All colonies that were strong early in the season have done remarkably well, considering the fact that basswood did not yield on account of hot winds and dry weather; white clover secreted well during the early part of June, but is now yielding very little, if any. Catnip is about the only source from which we are getting any honey, and it is not yielding as profusely as last season.

The greatest yield of extracted honey from one colony up to July 1, is 400 pounds; another has finished 205 one-pound sections.

We are not expecting a fall flow, as the extremely hot weather has prevented the growth of the fall nectar-secreting plants.

J. L. GANDY.

Richardson Co., Nebr., July 1.

The Bee-Keeper's Guide;

Or, Manual of the Apiary,

—BY—

PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book published to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipped, or his library complete, without THE BEE-KEEPERS' GUIDE.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

Given for TWO New Subscribers.

The following offer is made to PRESENT subscribers only, and no premium is also given to the two NEW subscribers—simply the Bee Journal for one year:

Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let every body try for it. Will YOU have one?

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QUEENS

QUIRIN THE QUEEN-BREEDER has now on hand, ready to mail, **500** young, long-tongued Red Clover Queens, Golden or Leather Colored.

We have one of Root's best breeders from his 200, long-tongued, Red Clover Queen, and a Golden Breeder which we are told is worth $100, if there is a queen in the U. S. worth that sum.

J. L. Gandy, of Humboldt, Nebr., tells us that the colony having one of our queens, stored over 400 pounds (mostly comb) honey in a single season. A. I. Root's folks say that our queens are extra fine, while the editor of the American Bee Journal tells us that he has good reports from our stock from time to time.

We have years of experience in mailing and rearing Queens. Queens positively by return mail from now on. Prices for balance of season as follows:

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Selected	$ .75	$ 4.00	$ 7.00
Tested	1.00	5.00	9.00
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Foundation Sagging in Brood-Frames

C. Davenport describes in Gleanings in Bee-Culture his plan to prevent this, which does not require wiring nor splints, as follows:

This sagging or stretching of the foundation, as those who have had trouble in this respect know, is next to the top-bar, a strip two or three inches wide. After foundation has been fastened in a frame, and while it still remains in position on the board, the point of a wax-dropper is held close up to the foundation, two or three inches above the top-bar; then a small stream of wax is forced out. As the point is lowered to the top-bar, this adheres to the foundation; and if the operation is repeated at intervals the whole length of the top-bar, it will prevent the foundation stretching when the bees first get on it; and by the time they do, these strips of wax off the foundation are usually drawn out enough to hold it from sagging.

Hive-Covers and Bottom-Boards.

W. W. Somerford says in Gleanings in Bee-Culture that he prefers the plain reversible board cover for the climate of Cuba. Because it is cheaper, and because they warp with less force, he uses boards ⅞-inch thick in preference to thicker.

His bottom-boards are somewhat novel. After struggling with difficulties connected with ordinary bottom-boards, he says:

I scratched my head, got on my wheel, and started off with a Spanish-talking American bee-keeper to a tile-brick factory. We soon found the jolly owner, and told him just what we wanted—smooth and straight flat-pressed brick, 16 inches wide by 21 long. He smiled, and said he had just the "American machine" to make them with, and made them. And, gentlemen, I can tell you now, as I place them on nice, flat ridges of earth, it is with a feeling that I shall be grown old and gray before the meanest one begins even to show decay. The man who made them said they would last forever. Just think of a nice bottom-board lasting forever, and costing only 10 cents! If you have no tile factory to apply to, concrete or cement will make them—are cooler than the coolest in summer, and warmer than the warmest in winter.

Some Things About Queen-Rearing.

The following conversation, taken from the Australasian Bee-Keeper, will interest beginners:

Fred—"I say, Will, you have introduced 24 queen-cells to-day—will they be laying in 10 days? I think you said a queen commences to lay in 10 days."

Will—"Yes, Fred, I suppose I did say so, but those were not queens I distributed, but queen-cells, and most of them will not emerge until to-night, so I will count full 10 days from then, *i. e.*, I will expect to find them laying on the eleventh day, and will look them up after that time."

"Will you not look at the nuclei before then?"

"Oh, yes, I will make sure the cell has not been destroyed. I will look up the virgin queens in about two days, and if I find them I will *not* disturb them before the eleventh day."

"Have you any object in not looking through them often?"

"Yes, I have, and if it were not for the frequent loss of queen-cells I would prefer not to touch the hives until the queen was due to lay. My rule is, *don't* disturb any hive having a virgin queen—first, it is an unnecessary loss of time, and, secondly, the young queen often gets excited on the opening of

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This is a good time to send in your Beeswax. We are paying 25 cents a pound—CASH—for best yellow, upon its receipt, or 27 cents in trade. Impure wax not taken at any price.

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Tennessee Queens!

Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3¼ miles apart, and mated to select drones, $1.50 each; untested warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and few within 5 miles. 28 years' experience. Discount on large orders. Contracts with dealers a specialty. JOHN M. DAVIS,
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IMPROVED STRAIN GOLDEN ITALIANS.

World-wide reputation. 75 cts. each; 6 for $4.00.

Long-Tongued 3-Banded Italians

bred from stock whose tongues measured 25-100 inch. These are the red clover hustlers of America.

75c each, or 6 for $4.00. Safe arrival guaranteed. FRED W. MUTH & CO.

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ONE Untested Italian Queen FREE as a Premium for sending us TWO new subscribers to the American Bee Journal for one year (with $2); or, one Tested Queen free as a premium for sending us FOUR new subscribers with $4.00).

We have arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us the coming season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

All queens guaranteed to arrive in good condition, and all will be clipped, unless otherwise ordered.

CASH PRICES of these fine queens will be as follows: Untested, $1.00 each; Tested, $2.00 each. Send all orders to

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Please Mention the Bee Journal when writing Advertisers

the hive and rushes over the combs; the bees chase her, and the result is she is balled and probably killed."

"Is the queen always to blame for the loss in getting excited?"

"No, not always. There is something about a colony of bees having a virgin queen that makes them different from other colonies, and these colonies require great care and cautious manipulation. Sometimes the bees are not contented to wait until nature requires a queen to make her wedding-flight, but seem intent on driving the virgin out of the hive. There are other bees that will tear down every cell given them, and others that will ball their queen, whether laying or virgin, every time the hive is opened."

"Do you get many colonies that give you trouble in that way?"

"It may not be often such trouble arises, but when it does I frequently find more than one nucleus so disposed, and usually trace it to the whole of the bees having been taken from one colony to form nuclei."

"If you have such troubles you must lose a few queens."

"Certainly. If I could only get 80 percent of my virgin queens mated and laying every year I would consider I did well. Some years I do much better, and others worse."

"Would there be a greater loss than 20 percent?"

"Oh, yes, during some seasons; if there is no honey being stored the loss might be 50 percent or more during certain portions of the season. I frequently have had almost total losses of several batches of cells distributed. This would occur very early in the spring, when there was a return of almost wintry weather, chiefly cold winds. The results depend greatly upon the season. During the past season I had excellent results, almost every cell producing a queen; but then honey was plentiful."

"I always thought the prices charged for queens were too high, and to tell you the truth, I intended to rear queens to sell after I got a little practice. I can now see that it is not all gold that glitters."

Cold Winters and Brood-Rearing.

A Stray Straw in Gleanings in Bee-Culture says:

The colder the weather in winter the warmer *the center* of the cluster. That being the case, theory would lead us to expect brood-rearing earlier in cold than in warm winters. I've often wondered whether that theory was indorsed by practice. Now comes L. Stachelhausen, in the Southland Queen, and says: "When I kept bees in a cold climate, more than 30 years ago, I observed in outdoor wintering that, the colder the winter the earlier brood-rearing commenced."

Section-Honey Without Separators.

Editor Root says in Gleanings in Bee-Culture:

I once heard an extensive bee-keeper get up in convention and say he had no use for separators—that he could and did dispense with them; and, what was more, he got just as good prices for his non-separatored honey as he did for that produced with them. It so happened that, months afterward, I ran across some of this man's non-separatored honey; and, of all the "kicks" I heard from the buyer! The long and short of it was, he would never buy any more of that honey again. It was too crooked, too bulged, too everything; so when I hear a non-separator man talk, I wonder whether he holds his trade.

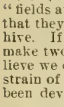
Bees That Are Rustlers.

E. H. Schaefle says in Gleanings in Bee-Culture:

At present the efforts of the queen-breeders seem to be confined to stretching the tongues of their stock to the utmost limit. While this elongating of the bee's tongue may be of benefit to those bee-keepers living in red-clover sections, to the average apiarist the working qualities of the bee are of far more

importance. It is a well-known fact that some colonies of bees will put up several hundred pounds of honey in a season, while others in the same apiary will not give a pound of surplus. I hold that the bee wanted is one that will give the most honey under average conditions. When I sit down by one of my best colonies and compare its movements with that of the average colony, I find that the rustlers come out of the hive on the run, stop an instant to gather themselves for the spring, and then are away like a bullet. Turning to the average colony I see that the bees come out leisurely, slowly crawl half way up the front of the hive, stop for the spring, and then, springing out slowly, circle and leisurely wing their way to the fields. Returning, the rustlers come down on the alighting-board with a bounce, and rush into the hive as though the queen's business could not wait, while the bees of the average colony drop on the alighting-board exhausted, rest there for several seconds, and then slowly crawl into the hive.

Now, I can not go with the bees to the "fields and far away," but it is safe to assume that they work in the field as they do at the hive. If this is the case, the rustlers will make two trips to the sluggards' one. I believe we can, by careful selection, produce a strain of rustlers just as the fast trotter has been developed.



Red Clover Queens!

bred from a daughter of the A. I. Root Co. long-tongue $200.00 Queen, and mated in my apiary where there is nothing but the best Italian stock.

I have drones flying in my apiary from seven **different States.** Untested, 50c each, $5.50 per dozen. Safe arrival.

W. J. FOREHAND,
29Dbt FORT DEPOSIT, ALA.
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COMPLETE POULTRY BOOK FREE.
Contains 208 pages, profusely illustrated, plans for houses, incubators, brooders, coops, etc. Given free if you send this advertisement and 25 cents for a year's subscription to our Journal. INLAND POULTRY JOURNAL, Indianapolis, Ind.
29Dtf Please mention the Bee Journal.

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Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

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Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive way, with illustration to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condensed treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. 30 cts.

Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. Price, 10 cts.

Foul Brood, by A. R. Kohnke.—Origin, Development and Cure. Price, 10 cents.

Capons and Caponizing, by Dr. Sawyer, Fanny Field, and others. Illustrated. All about caponizing fowls, and thus how to make the most money in poultry-raising. 64 pages. Price, 20c.

Our Poultry Doctor, or Health in the Poultry Yard and How to Cure Sick Fowls, by Fanny Field.—Everything about Poultry Diseases and their Cure. 64 pages. Price, 20 cents.

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M. H. HUNT & SON, Bell Branch, Wayne Co., Mich
Please mention Bee Journal when writing.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, July 8.—The new honey is arriving, and some nice lots of white clover comb have sold at 16c per pound. The urgent demand has been supplied which is very light at this season of the year, and we find shipments beginning to accumulate so that 15c would be accepted if offered; amber grades are nominal at 12@13c. Extracted, white, is selling slowly at 5½@6c; amber, 5@5½c, according to body, flavor, and style of package. Beeswax, 30 cents for choice yellow. R. A. BURNETT & Co.

CINCINNATI, May 17.—No demand for comb honey, also stock of it well exhausted. Extracted very dull; sales are more or less forced; lower prices from ½ to 1 cent per pound.
C. H. W. WEBER.

BOSTON, June 29.—There is practically no comb honey in our market, and owing to warm weather very little call for it. Are expecting some new comb early next month. Market for extracted dull, at 6½@7c.
BLAKE, SCOTT & LEE.

OMAHA, May 1.—Comb honey, extra white, 24-frame cases, per case, $3.40; No. 1, $3.25; amber, $3.00. PEYCKE BROS.

NEW YORK, July 8—Our market is practically bare of comb honey, and demand good for white comb. Fancy stock sells readily at 15c; No. 1 white at from 13@14c, and amber at 11@12c. Extracted not in much demand, with plenty of supply; white, 6@6½c; light amber, 5½c; dark, 4½@5c. Beeswax firm at 29c.
HILDRETH & SEGELKEN.

ALBANY, N. Y., June 18.—Honey market is dull with no receipts or stocks and little demand. It is between seasons now. Prospect of good crop in this vicinity from what bees there are left, the greater portion having been killed by foul brood exterminators. H. R. WRIGHT.

DETROIT, June 27.—Very little old honey in market, and no new honey come in yet. Splendid showing for a good yield of white clover honey. Beeswax, 26@27c; demand light.
M. H. HUNT & SON.

BUFFALO, July 10.—No demand for honey yet unless a very small amount of fancy white at perhaps 15@16c. Some old lots still about, unsalable, almost, at 6, 8 and 10 cents. Beeswax, 22@28c. BATTERSON & Co.

KANSAS CITY, June 14.—Very little old honey on our market but what is damaged by being granulated. Sales are light at 15 cents for best grade No. 1 Colorado. Amber, 13c. Beeswax firm at 25@30c.
W. R. CROMWELL PRODUCE Co.,
Successors to C. C. Clemons & Co.

SAN FRANCISCO, June 19.—White comb, 11½@12½ cents; amber, 9@10c; dark, 6@8 cents. Extracted, white, 5½@6½c; light amber, 4@4½c; amber, 3½@4c. Beeswax, 26@28c.
Market shows no quotable improvement, but there are no large quantities obtainable at the prices generally named by dealers. In a small way, for especially desirable quantities, slightly higher prices than are quoted are being realized.

Wanted Fancy White Comb Honey in no-drip cases; also Extracted Honey. State price, delivered. We pay spot cash. FRED W. MUTH & Co., Front & Walnut Sts., Cincinnati, Ohio. Reference—German National Bank, Cincinnati.
28A17t Please mention the Bee Journal.

BEES WAX We will pay 26c. cash, per lb. for pure, bright yellow beeswax, and 20c. cash, per lb. for pure, dark beeswax delivered here. CHAMBERLAIN MEDICINE Co., Des Moines, Iowa.
27A13t Please mention the Bee Journal.

Wanted.

Comb and Extracted Honey. Will buy your honey no matter what quantity. Mail sample of extracted, state quality of comb honey and price expected delivered in Cincinnati. I pay promptly on receipt of goods. Refer you to Brighton German Bank, this city.
C. H. W. WEBER,
2146-2148 Central Ave., CINCINNATI, OHIO.
29Atf Please mention the Bee Journal.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

Please mention Bee Journal when writing.

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AT HOME by my thorough method of training. With my complete course I guarantee to train and cultivate your voice or refund your money. The best musical knowledge arranged especially for Home Study. His Highest Endorsement, Beautiful descriptive booklet sent free. Address Prof. G. M. Whaley, Kalamazoo, Mich.

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ITALIAN QUEENS, warranted

Tested, $1.00; Untested, 75 cents, by return mail.
RIVER FOREST APIARIES,
Oak Park P.O. RIVER FOREST, Cook Co., ILL.
21Atf Mention the American Bee Journal.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	70c	$1.20	$2.75	$5.00
Sweet Clover (yellow)	$1.50	2.80	6.25	12.00
Alsike Clover	90c	1.70	3.75	7.00
White Clover	90c	1.70	4.00	7.50
Alfalfa Clover	80c	1.40	3.25	6.00
Japanese Buckwheat	30c	.50	1.00	1.60

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.

I ARISE

To say to the readers of the BEE JOURNAL that

DOOLITTLE...

has concluded to sell QUEENS in their season during 1901, at the following prices:

1 Untested Queen ..$1.00
3 Untested Queens.. 2.25
1 Tested Queen 1.25
3 Tested Queens.... 3.00
1 select tested queen 1.50
3 " " Queens 4.00
Select Tested Queen, last year's rearing 2.50
Extra selected breeding, the very best..5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t Borodino, Onondaga Co., N. Y.
Please mention Bee Journal when writing.

24th Year Dadant's Foundation. 24th Year

We guarantee satisfaction. ✲✲✲

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS. PATENT WEED-PROCESS SHEETING.

Why does it sell so well? ✲✲✲

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Very fine pure-bred **BARRED PLYMOUTH ROCK** Chickens and Eggs for sale **at very low prices.**

Langstroth on the Honey-Bee—Revised,
The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

Please mention Bee Journal when writing.

Red Clover Queens

✲

We have been telling you through our advertisements of the superior stock of queens we are furnishing this year, and we have abundant testimony from others corroborating our opinion. Look at the following which is only one of the numerous endorsements received.

July 5, 1901.

The bees are working as I never saw them work before, and already there is over 100 pounds of honey in the hive, and all from clover. I am led to believe that long tongues and good working qualities go together.

Yours very truly, OREL L. HERSHISER,
Supt. N. Y. State Apiarian Exhibit, Agricultural Building, Pan-American Exposition, Buffalo, N. Y.

This refers to a colony of bees on the Pan-American grounds with one of our Tested Red Clover Queens reared last season.

Our Prices are as follows:

Gleanings in Bee-Culture one year and one Untested Red Clover Queen, $2.00.

Gleanings in Bee-Culture one year with Tested Red Clover Queen, $4.00.

Gleanings in Bee-Culture one year with Select Tested Red Clover Queen, $6.00.

If you want something good you can not do better than to order one of these queens. All orders are filled promptly. No extra postage on these offers to foreign countries.

THE A. I. ROOT CO., Medina, Ohio.
(U. S. A.)

☞ **GEORGE W. YORK & CO.** 144 & 146 Erie Street, CHICAGO ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor

CHICAGO, ILL., JULY 25, 1901.

FORTY-FIRST YEAR
No. 30.

WEEKLY

MR. R. WILKIN.—See page 472.

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

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GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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MEMBERSHIP DUES, $1.00 a year.

☞ If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Secor, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

MR. F. B. SIMPSON, whose article on in-breeding appeared in last week's number of this journal, desires to make the following correction:

I wish here to correct the error I made in my article on in-breeding, on page 452. When I wrote, "My idea that the best bee is the best regardless of locality," I had in mind all the limitations mentioned in the 4th full paragraph in the 2d column on page 454, but failed to put them on paper, as they should have been if again mentioned, for I am a long way from believing the way the last sentence was printed. F. B. SIMPSON.

EDITOR E. R. ROOT passed through Chicago on his homeward journey Monday evening, July 15, stopping in the city only between trains. He had covered about 6000 miles, making some 45 stops, and was feeling well, having gained several pounds in avoirdupois. The Texas "bee-keepers' paradise," mentioned by him in a recent editorial item in his paper, is already greatly overstocked with bees and bee-keepers, so no one need get ready to move there right away. In Colorado and Utah, however, there are unoccupied locations that are excellent for bee-keeping.

LONG-TONGUED HONEY-BEES.—I am making a study of the length of tongue in the honey-bee, and its relation to honey-production. I shall be glad to have all readers of the American Bee Journal, who are interested in the subject, send me bees from their best and their poorest colonies for honey-production. Send not less than 10 or 15 alive in a queen-cage. Do not put bees from different colonies in the same cage, and do not send bees from colonies where a new queen has been introduced this season, unless within two weeks, as it will be best to have all the bees in a cage from the same queen. If any have bees from queens that have been recommended to produce specially long-tongued stock, I shall be glad to receive some of the bees and measure their tongues. Send full information with each lot of bees. I shall be glad if some can send specimens of the German or black bee, also Carniolans, Cyprians, and Syrians. Address, C. P. GILLETTE, Experiment Station, Ft. Collins, Colo.

MR. S. W. HALL, of Wyoming, has been offering Editor Hutchinson, of the Bee-Keepers' Review, some suggestions. One of them is referred to in the following paragraph:

"Boil it Down," is what Mr. S. W. Hall, of Wyoming, would be pleased to have us editors and correspondents do. He says that he takes the bee-journals to get new ideas, but he is obliged to scratch over so much chaff for a few grains of common-sense that he is sometimes tempted to forego the reading of all of the journals until they learn to boil it down. Long articles are sometimes necessary and valuable; but, if I understand the spirit of Mr. Hall's criticism, it is not to these that he objects so much as to giving space to articles that are of little or no help to real, practical honey-producers.

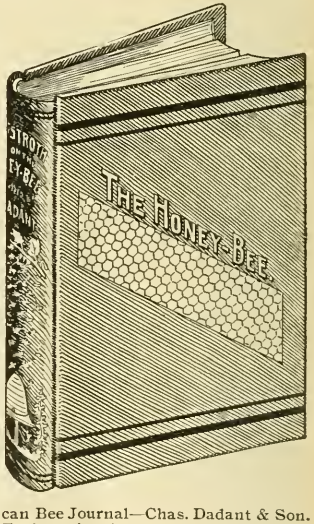
Mr. Hall should read the American Bee Journal. If too busy to do that he is likely too busy to waste his time keeping bees. He reminds us of many a beginner in bee-keeping who thinks he can't afford to spend one dollar for a good bee-book and another dollar for a good bee-paper. A man who can't afford to start right in any business (especially when it costs so little) can't afford to start in it at all. And yet, such a man usually thinks he can afford to waste his neighbor bee-keeper's time by asking a hundred questions that are answered by the book and paper.

Of course, in a measure, Mr. Hall is correct, and for that reason we have our department of "Beedom Boiled Down," so that bee-keepers really need read only the American Bee Journal, and thus save time and money, and also get practically all the latest and best ideas on the subject of bee-keeping.

Langstroth on... The Honey-Bee

Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.



The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

GEORGE W. YORK & CO.

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., JULY 25, 1901. No. 30.

Editorial.

One of a Thousand.—Are you one of a thousand members that the National Bee-Keepers' Association ought to have before the convention to be held in Buffalo, in September? Last week we reported the names of four persons who had sent us their membership dues. This week we record the following:

JOHN BALUSS. JOHN S. DOWDY.

New names will have to be sent in more rapidly than during the past two weeks if we are going to secure the necessary 200 among the readers of the American Bee Journal. That was what we thought could easily be done. And it can be—if only 200 among all the thousands who are not yet members of the Association would simply send in the one dollar each.

Of course, it is not *necessary* to send your dollars to us—send them direct to General Manager Eugene Secor, Forest City, Iowa, if you prefer. But we can publish the names of only those who send to us. We will then forward the money to Mr. Secor.

Now, can't we have a long list of new names next week?

Grading Honey.—Mr. D. W. Working has an article on this very important subject in this number of the American Bee Journal. Every bee-keeper ought to read it, and then heed it. We have handled enough honey to know that most bee-keepers know very little about the grading business. Of course, each knows that no other bee-keeper ever produced as fine honey in every way as his! And no one grades as honestly as does he! It's always the "other fellow" who puts the finest and whitest sections of honey in the front row, next to the glass, and then fills in back of them with "any old thing!"

One needs only to see the promiscuous lots of honey that are received by a honey-dealer, to be convinced that on the subject of grading there is much to be learned by most bee-keepers. And uniformity of grading—well, you might almost as well talk of controlling breeding so that all calves or colts will be of the same size and color!

But it will pay to continue to call attention to this subject that really does mean so much to honey-producers.

Read Mr. Working's article, and then see if you can't hereafter do better work along the line of grading honey.

Bees Superseding Queens.—G. M. Doolittle says in the American Bee-Keeper that fully three-fourths of his queens superseded by the bees are so superseded during the three weeks immediately following the linden flow. So any queen that he wishes to replace at that time is disposed of, and a ripe cell given a day later, unless a cell-protector is used, in which case the cell is given at the time of removing the queen. A plan not generally known he further gives:

Another plan which I have often used since my apiary became very much improved beyond what it formerly was, is to rear a lot of cells from my best queen at the time given above, and 24 to 48 hours before they are booked to mature, give one to each colony having a queen more than one year old, using a cell-protector for each one, and placing this protected cell in one of the sections on the hive, or anywhere I best can where the bees can cluster about it, without hunting out the old queen at all; when, if the bees have any notion to supersede their queen, they will accept of this young one and destroy the old queen. If they destroy the young queen I allow the old one to remain, thinking that the bees know what is right, and in 19 cases out of 20 where the bees decide on keeping the old queen, I find she proves *par excellence* till after the honey-flow of the next year is over. This is something which does not cost much labor, and which I practice often to my satisfaction.

In-Breeding is generally supposed to be a thing that should in all cases be avoided, and bringing evil and only evil in its train. Those who are well-informed tell us that some of the best results in breeding have been obtained through the very closest breeding, and this has been emphasized so strongly that some might be led to think that no care whatever is needed to avoid in-breeding. A very wide gulf lies between the two teachings. On one side lies the teaching: in-breeding must never be allowed. On the other side lies the teaching: pains must be taken to practice in-breeding if the best results are to be obtained. The truth in such cases is generally to be found in middle ground. In this case the middle ground would be very welcome to the lazy breeder, who would interpret it as being: take no pains to avoid in-breeding, and take no pains to practice it, but let nature take its own course. In this case certainly the middle ground so interpreted is not a safe ground.

We are told that in-breeding is not a bad thing *per se*. Perhaps. How can in-breeding be a bad thing when such grand results have been obtained through its practice? But were the results obtained *because* of in-breeding or *in spite of* it? Darwin says there is no mysterious evil in the mere fact of the nearest relatives breeding together, but the evil follows from the circumstances of near relatives generally possessing a closely similar constitution, and that however the fact be explained it seems a fact that for the most vigorous progeny there must be a certain differentiation between sire and dam. That sounds like saying there is no evil in in-breeding *per se*, but it comes perilously near it if attendant circumstances are so commonly such that evil results. It would be unwise to dogmatize with none too much knowledge on the subject, but there may be no harm in asking a few questions:

Did those breeders who obtained such good results from in-breeding breed from near relatives because they were near relatives, or because they possessed, in common, qualities desired to be perpetuated? Would a father ever have been bred to a daughter as sire and dam if another than the father could have been obtained posessing the same qualities as the father without at the same time being nearly related to the daughter? Is it not the safe thing for those who do not take great and special care, that they shall take all the pains possible to avoid in-breeding? Is it not well that more should be known about the laws of breeding, so that a goodly number of the craft could be engaged in an intelligent attempt to improve our bees?

The Saw Palmetto is an important honey-plant. That same remark about white clover would perhaps elicit a smile of pity, for every one is supposed to know white clover honey, yet saw palmetto is to the Florida bee-keeper, the editor of the American Bee-Keeper says, what white clover is to the Northern producer of honey. "Hundreds of thousands of acres of Florida sand are covered with a scrub growth of it, while in moist and richer localities it grows in impenetrable jungles, and is one of the most beautiful of our sub-tropical palms," so says Mr. Hill.

In the same journal, W. S. Hart says it is a tree whose trunk may lie under the surface of the ground or upon it, or it may rise 10 or 12 feet high in the air. It is one of the cheapest and best sources of tannic acid for tanning leather. The pinnated leaf is used to make paper, especially of finest quality, and capable of holding oil and other liquids. It also makes a very clean and springy filling for mattresses. The bloom is composed of small, cream-colored flowers on racemes from one to three feet long, and the honey is of a fine light-amber color, heavy in weight, and of good flavor. Another grade of honey is obtained by the bees from the juice which oozes through the skin of the berries, which are from the size of an olive to twice that, and seem to be a wholesome food for hogs, cattle, bears, and people.

Contributed Articles.

Grading Honey—Its Importance, Rules, Etc.

BY D. W. WORKING.

Secretary of the Colorado State Bee-Keepers' Association.

THE bee-keeper is a partner in a co-operative business; he furnishes the hive and its accessories and markets the honey and wax which the bees produce. But he does more. Between the work of preparing the hive for the bees, and marketing the product of their labor, the bee-master has other work to do. He is more than a partner in a co-operative establishment—he is both manager and joint worker, and on the wisdom and skill with which he works and manages depend in a large measure the success of the business venture.

The bee produces the honey. But will it make straight combs, even, white, and well-capped, if hive and sections are not properly prepared for its use, and if they are not properly cared for during that use? And if all the preliminary work is well done, will the product be ready for an exacting market without additional work and care? The fruit-grower picks his berries and his apples when they are in the best condition for the trade; he sorts them carefully and puts them up in attractive packages in order to command the best prices the market affords. Skill in raising, experience in handling, wisdom and foresight in catering to a varying demand—these are the secret of his success.

The bee-keeper must do more than to induce his bees to put their product into clean sections; he must keep the sections clean and unbroken; he must meet the demands of the trade. To do this he must take the honey from the hive at the right time, must make each section as clean and inviting as possible, and then assemble the sections properly in attractive packages. People like what is good, and like it better if it looks good. What is clean suits them better if it looks clean. A stain on the outside of a section does not make the honey less sweet or less wholesome, but does make it less attractive to the buyer. The stain, therefore, must be removed before the section is offered for sale.

Uniformity counts; therefore the bee-keeper must make his packages uniform—in size, in shape, in color, in arrangement. A few leaking sections are too many; a single badly graded case may spoil the sale of a ton of honey. So the individual must be careful in grading, in handling, in packing, and in selling his products. But this is not enough. The market is too big for one man to supply. Honey is bought and sold by the car-load—even by the train-load—and the buyer is wise enough to insist on uniformity of grading in the whole lot. The packages must be uniform or he will complain; the packing must be uniform or he will find fault; the honey itself must be uniform or he will not pay the highest price for it. He is a kicker—the buyer is—and he ought to be! So the uniformity of grading and packing which is necessary to the individual is necessary to all who help supply the market.

The Colorado State Bee-Keepers' Association has undertaken to provide a system of grading rules that will make Colorado honey as famous for evenness and honesty of classification as it is for quality. It is hoped and intended that "No. 1 Colorado Honey" shall have a meaning as definite and precise as any other trade name may boast. To this end, every member of the Association is furnished a copy of the rules and recommendations, and urged to follow them as faithfully as if he were to be paid liberally for doing so in addition to winning an honorable name for himself and his State. Indeed, the man who follows the rules carefully and wisely will be paid for his faithfulness in the higher price he is sure to get for his products.

The rules are not supposed to be perfect; but they are believed to be better than those of last year. I may venture, myself, to add a suggestion: In case of doubt in classifying, give the lower grade the benefit.

The rules and recommendations of the Colorado State Bee-Keepers' Association are as follows:

COMB-HONEY RULES.

No. 1.—Sections to be well filled and capped, honey white or slightly amber, comb white and not projecting beyond the wood, wood to be well cleaned; cases of separatored honey to AVERAGE 21 pounds net per case of 24 sections, with a minimum weight of not less than 20 pounds for any single case; cases of half-separatored honey to AVERAGE not less than 21⅜ pounds net per case of 24 sections, with a minimum weight of 20⅜ pounds for any single case; cases of unseparatored honey to AVERAGE not less than 22½ pounds net per case of 24 sections, with a minimum weight of 21½ pounds for any single case.

No. 2.—Includes all amber honey of a pronounced tinge, and all white and amber honey not included in No. 1; to be fairly well sealed, uncapped cells not to exceed fifty in number exclusive of the outside row, wood to be well cleaned; cases of separatored honey to AVERAGE not less than 18 pounds net per case of 24 sections.

EXTRACTED-HONEY RULES.

Extracted honey shall be classified as white and amber, shall weigh 12 pounds per gallon, shall be perfectly free from particles of wax, and shall always be marketed in new cans. All rendered honey, whether obtained by solar heat or otherwise, shall be classed as "strained" honey and not as "extracted."

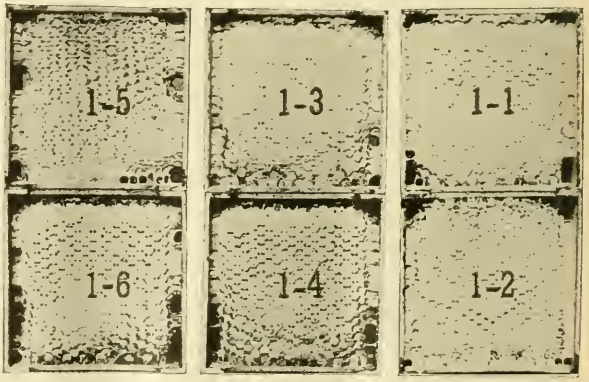
RECOMMENDATIONS.

It is recommended to sell all cull honey around home as much as possible; to grade only in daylight, near a window; to use the standard 4¼x4¼x1⅞ inch section and the 24-pound double-tier shipping-case, in order to have uniformity in loading cars; to stamp all cases of No. 1 honey with the owner's name above the handholes; to mark all cases of No. 2 honey with two dashes in the handholes at each end of the case, and with no other marks whatsoever; to use no second-hand cases for No. 1 and No. 2 honey; to pack all sections with paper below and above, and in double-tier cases to put a sheet of paper between the tiers; to store comb honey in a warm, dry place, protected from flies and dust; and to haul carefully, well protected from dust and rain.

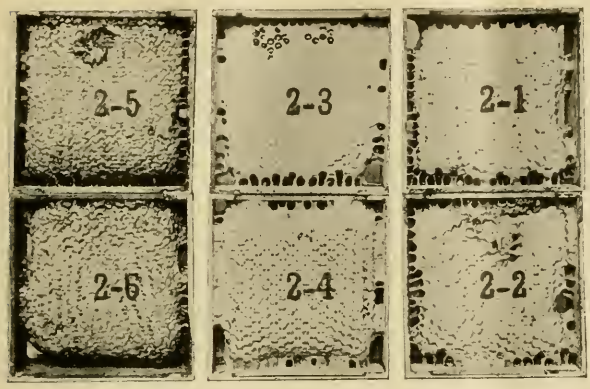
Do Bees Spread Pear-Blight?—The California Bee and Fruit Case.

BY E. R. ROOT.

TROUBLE has been brewing for some months between the fruit-men on one side and the bee-men on the other at Hanford, in the San Joaquin Valley, Calif. On the part of the first-named, the contention was that the bees, the property of the other parties, were the principal means of spreading the pear-blight, which had been working such awful havoc among the pear orchards in the vicinity mentioned. The bee-men, on the other hand, took the ground that their stock were not carrying the pear-blight; and, even assuming that they might do so, averred that other insects, and birds, as well as the wind, might and could do all the mischief laid to the door of the bees, and that, therefore, the removal of the insects under the direct control of man would not afford the relief sought. The contention waxed warm. Each side called special meetings to discuss the matter. Bitter words as well as threats were used. Some of the more rabid of the fruit-men proposed



No. 1 HONEY.



No. 2 Honey.

to use poison to exterminate the bees in case they were not speedily removed by their owners. This only tended to aggravate matters. The bee-men retorted that, if any one were foolish enough to resort to such a procedure, not only killing the bees but endangering the lives of human beings, they would meet them on the issue half way; that they had, as backing, the National Bee-Keepers' Association, which had hundreds of dollars to its credit, had fought many cases in court, and had always been successful; that, moreover, it had decisions already on the question of poisoning bees, and that the fruit-men "could drive ahead" if they wished to. The latter maintained that they "had looked up the law," and that they knew what they were about.

It appears that those who indulged the most freely in this war of words were not those who had the largest interests at stake, either in the bees or in the pears; that the large pear-growers as well as the largest bee-keepers were men who indulged in no threats, but who believed that a compromise might be effected between neighbors who were men of fairness as well as men who are willing to listen to reason, and so the sequel proved.

The president of the National Bee-Keepers' Association was asked by resident members to make a visit to the scene of the impending trouble; investigate, and take such action as might, after a conference, seem most advisable. Accordingly, on the 18th of June, that officer appeared at Hanford, Calif., being dropped, as it were, into that "nest of hornets" by the redoubtable John H. Martin (Rambler), and J. C. McCubbin, who came with him officially and unofficially to see that no harm was done him; but, be it said, they deemed it advisable to go home that same day, although they did participate in one or two little "skirmishes" on the street. Unfortunately the Rambler didn't have along his invincible umbrella and stovepipe hat; for with such offensive and defensive weapons he would surely have come off victorious. As it was, it was a "draw" and he departed with John C. under his arm.

It appears that the local members of the Association had made a great handle of the coming of the president of the National; of the strength of our organization, how it had never lost a case in court, and that it had secured valuable decisions from the high courts. But as he did not come at the time expected, and days went by, and still he did not come, the fruit-men began to think that this talk was all "bluff;" and when he did appear, there seemed to be a feeling on their part that he had come, not to bring peace, but war, and that an organization that would send a "walking delegate" clear from Ohio surely meant business. After a little sparring on both sides, a truce and a compromise began to be talked of. On our side was a special committee appointed by the Central California Bee-Keepers' Association, at its last meeting, to meet the representative of the National Bee-Keepers' Association; and on the other was N. W. Motheral, Horticultural Commissioner, of Hanford, Calif., who seemed to represent the fruit-men, but who some jokingly said was the mother of the whole trouble.

When both sides got together it was suggested by one of the fruit-men that, as a compromise, the bees be moved from the vicinity of the pear-trees during the time they were in bloom, and that, after they were out of bloom, and when the alfalfa began to yield nectar, they be returned to take the heavy or main crop. This, it was thought, would give the bee men time to investigate for themselves, and if, after investigation, it was shown that the claims of the fruit-men were well-grounded, afford in the meantime the necessary relief. This was finally agreed to, although it would entail a big expense on the bee-men.

It may be wondered why the latter were willing to listen to a compromise at all. In the first place they desired to be fair; and, in the second place, the fruit-men had the testimony of Prof. M. B. Waite, Assistant Chief of the Division of Vegetable Physiology and Pathology at Washington, D. C. This official takes the position that bees do carry the microbes of pear-blight from flower to flower while the trees are in bloom. In this opinion he appears to be supported by Prof. N. B. Pierce, Pathologist of the Pacific Coast Laboratory, Santa Ana, Cal.

The following letter, directed to N. W. Motheral, Commissioner of Horticulture at Hanford, Calif., from Prof. Pierce, explains the position of the scientists, in a nutshell:

Mr. N. W. Motheral, Horticultural Commissioner, Hanford, Calif.—

Dear Sir:—In fulfillment of my former letter, and in reply to your request, I herewith give the main facts upon which are based the claim that bees take an active part in spreading the disease of trees variously known as pear-blight, twig-blight, fire-blight, etc.

1. Pear-blight is a bacterial disease which affects pear, apple, crab-apple, quince, and related trees. It is induced through the action of a specific micro-organism belonging to the bacteria, and known as *Bacillus amylovorus* (Burrill), de Toni.

These facts have been demonstrated by many scientific workers by careful inoculation, experiments conducted with pure cultures of the bacillus. The cause of the disease has therefore been well known for many years.

2. The identity of the blight of pear-trees in the Clow and Taylor orchards near Hanford (these particular orchards are cited only for the sake of accuracy, as there are many others affected) with true eastern pear-blight has been demonstrated at this laboratory. *Bacillus amylovorus* was isolated in pure culture by the plate process from blighted branches from Mr. Clow's trees, and a young and thrifty pear-tree was inoculated, and died to within a few inches of the ground of true pear-blight. A control tree treated the same way as the inoculated tree, except that the bacillus was not introduced, remained perfectly healthy.

Mr. M. B. Waite, Assistant Chief of this Division of the Department, has kindly supplied the following additional facts bearing on this matter:

3. "The occurrence of the blight on the blossoms in great quantities, and the great rapidity with which the disease spreads from flower to flower, indicates a normal and very effective method of distribution."

4. "The germs were found growing freely in the nectar of the blossoms."

5. "Bees were seen repeatedly visiting the infected flowers, and some were caught taking infected nectar, and, by means of plate cultures, the pear-blight germs were isolated from their mouth parts."

6. "By covering parts of the trees with sacks of various kinds of material, and then artificially infecting certain flowers on the tree, the blight was observed to spread very freely over the uninfected and uncovered blossoms, but was entirely absent in the blossoms covered by mosquito-netting."

7. "Blossoms were infected, and at once covered with sacks, and the blight, in such cases, was retained in the infected blossoms."

8. "Pear-blight germs died very soon after being dried up, and lived for only a brief period on exposure to weather conditions out of doors, hence they can not live in dust, and be blown around to any great extent by the wind."

9. "Pear-blight virus, particularly that which occurs on blossoms, is a very sticky substance, and is readily carried by insects, birds, or other animals, but can not be blown by the wind."

This brief presentation will, I believe, furnish your board with the main facts needed to show the connection existing between the visits of bees to pear-flowers and the spread of pear-blight.

Sincerely yours, NEWTON B. PIERCE.
April 23, 1901. *Pathologist in Charge.*

Prof. Pierce happened to be in the city at the time, and in an interview which we had with him he gave utterance to substantially the statements as are given above. If anything, his verbal statement incriminating the bees was even stronger. So far as I could judge, he seemed to be a competent scientist, and a fair-minded gentleman; but, unconsciously, he is prejudiced, I think, in favor of the pear-men, with whom he has come much in contact of late.

I asked him if it were not true that wild bees, insects and birds, over which man has no control, could do all the mischief ascribed to the bees. He admitted that this was possible, but not probable. Did he not think that bees were valuable as fertilizers of the blossoms, especially of those of the Bartlett pear? He thought they were. Well, did not this service of the bee, year in and year out, more than counterbalance the alleged mischief done by them in the *occasional* year when pear-blight was so prevalent? He could not say, although he was of the opinion that, by a certain alternation of varieties, the services of the bee might be dispensed with entirely; but of this he was not sure.

From Prof. Waite's statements it would appear (to express it in common parlance) that the bees have been caught "red-handed," bearing the marks of the alleged criminal act. If I understood Prof. Pierce, he had not found the bacteria of pear-blight on the tongues of the bees, nor had he himself seen the microbes in the nectar. If this be true, we have, as the only real incriminating chain of evidence, the statement of Prof. Waite. Without detracting in the least from the skill of the professor, it is proper to remark that even the best of scientific men make mistakes, and we, as bee-keepers can not accept the unsupported statement of Prof. Waite without further investigation by some of our men equally competent and fair.

This is a nice question, as a lawyer would say, and we need to go at it carefully and candidly to get at the truth, cut where it may.

There is some evidence that goes to show that Prof. Waite is mistaken. For instance, there are young pear-trees, acres and acres of them, *that have never been in bloom*, and yet these young trees are blighted to death. How in the name of reason did the bees carry blight to these trees when it is apparent that they never went near them? And then there are little shoots that have pushed up from the ground since the big trees were in flower, and yet *these shoots are blighted like the rest*. Assuming, for argument's sake, that bees may carry the blight on old trees, we must admit that there is some agency, possibly the wind, Prof. Waite to the contrary, that carries the destructive microbe to the young shoots and the young trees. There are some things that are not explained yet.

Again, I believe we have the right to insist, for the present, until we have more corroborative evidence, that wild bees, other insects, and birds, over which man has no control, may be able to spread the blight just as much as the bees under the control of man. For example, this illustration was used: If a barrel full of water has two plugs in it near the bottom, the larger plug, represented by the tame bees, and the other plug (the small one) by insects, birds, and wild bees, will not the small plug exhaust the barrel just as surely as the large one? If this be true the removal of the bees controlled by man would not bring the relief expected, by a long way.

In conclusion, let me say that I visited the worst-affected large pear-orchards in the vicinity of Hanford, Calif. The large pear-growers were fair, intelligent men. While they thought the bees were to blame, they also thought the pear-men had some responsibility in the matter.

I visited one orchard of 120 acres, and every tree was badly blighted, and no mistake; but in this orchard we found the badly-blighted little shoots I have referred to.—Gleanings in Bee-Culture.

California for Bees—Motherwort, Etc.

BY PROF. A. J. COOK.

PROF. C. P. GILLETTE, of Colorado, desires me to give the comparative merits of the different parts of California for bees. The southern portion of the State would be incomparably superior were it not for the too frequent drouths. When we have good years the crop is immense, and the honey—mostly sage—is very superior in color and flavor. But the dry seasons are too common. In the 7 years since I came here there have been but 3 excellent seasons, while two of the seasons were complete failures. It is possible that at some time in the future we may be prepared to water large sage areas, in winter, when there is too little rain, and when water can be had cheaply, and so remove this uncertainty. In such case Southern California would lead the world.

Central California—the great San Joaquin Valley—is becoming very noted as a locality for bees. The extensive fields of alfalfa in Fresno, Tulare and Kings Counties, make the honey crop almost certain; and the quality of the alfalfa honey leaves nothing to be desired.

In Northern California there are always abundant rains, and in some sections, as along the Sacramento river, there are extensive areas of alfalfa. If the North had as fine honey-plants and in as rich profusion as the South, then Northern California would be at the head for honey-production.

Prof. Gillette asks especially about Sonoma County. If one is sure of honey-plants he may have no fear. It would be wise, if possible, to locate close by a large acreage of alfalfa, as then failure would be almost sure of elimination. There must be generous watering in winter to insure nectar-secretion. The owners of alfalfa will look to the watering, and so the honey crop will be assured.

MOTHERWORT AS A HONEY-PLANT.

Mr. Arthur A. Houser, of McDonough Co., Ill., sends a nice sample of this plant, of which he writes:

"I send you a flower which grows abundantly here. I haven't been able to find a botanist that can give me its name. Will you please name it through the American Bee Journal? The bees are on it from early morning till late at night. I feel sure it must be a very rich honey-plant. Do you not think I would better encourage its growth here, as it flourishes well with half a chance?"

This is one of the best mints of the East. It is the common motherwort—Leonurus cardiaca. It is illustrated in my "Bee-Keeper's Guide," page 357, where I fully explain its excellence as a honey-plant. It is one of the mints, and so has excellent relatives in the horse-mint and white and ball sages. It belongs to the family Labiate, so named from the two-lipped or bi-labiate form of the flowers. Such irregular flowers have developed, as we are assured, that bees, etc., might the better cross-pollinate the flowers. Other families with irregular flowers are familiar in the Scrophulariaceæ and the Legumes. In the first is the excellent honey-plant—figwort—and in the latter all the clovers. The irregular flowers are so formed that the bee, as it reaches in to get the nectar, is sure to become dusted with the pollen, which, as the bee flies away, will be borne to the stigma of the next flower visited. The very fact of irregular flowers tells that we have honey-plants.

CORRECT USE OF NAMES.

I doubt if we can be too careful in using names correctly. I have a theory that to use terms loosely tends to beget untruth, and, conversely, to use words precisely works to make one more truthful. This, and to be more correct in our language, is surely enough to influence us all. Thus I would urge all to help to correct some very common faults of expression. I say faults, though the dictionaries may permit some of them. Our dictionary makers are conservative, and follow rather than lead in nice distinctions. The best way to gain the latest and best is to study the works of specialists. They must be accurate and precise.

The entomologist would never call a larva a worm. Insects are a branch separate from worms, and are very different in every way. A worm—an angle-worm is an example—is always the same in form and appearance. Thus a worm just hatched from the egg is like the mature worm, except it is small. Worms have no feet, nor any specialized organs for breathing. We may rightly say angle-worm, sea-worm, tape-worm, round-worm, etc.

The larvæ of insects are different. They are very unlike their matured selves—usually have feet—have respiratory organs. If these are to develop into butterflies or moths, we call them caterpillars. These always have from 10 to 16 legs, usually the latter number. If they are to develop into two-winged flies, like house-flies, we call them maggots. These are footless. If they are to become beetles, we call them grubs, when they usually have 6 legs, though some, like the grubs of weevils, are also apodous or footless. Another mistake is to call insects bugs. Only one order of insects are bugs. We may say chinch-bug correctly, but to call a beetle or locust a bug is as much an error as to call a rat a hippopotamus. Let us do all we can to secure more accuracy in the use of such names.

Los Angeles Co., Calif.

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once, if you want a copy of this song.

(Continued from page 439.)

No. 9.—Practical Lessons for Beginners in Bee-Culture.

BY J. D. GEHRING.

I BELIEVE it is safe to assert, Mr. Bond, that in all the intelligent universe, so far as our knowledge extends, there is not a creature so low in the scale of intelligence that it does not in some degree appreciate human kindness, gentleness, sympathy—all expressed in the word *love*. Of course, it is easy to deny this statement; but it is by no means easy to prove it false, in theory and manifestation. Only a moment's reflection brings before your mind the fact that it requires but little effort on your part to make your horse, your dog, or even one of your hogs, love you—as far as an animal is capable of manifesting that quality of intelligence."

"But I came to the conclusion a few years ago that we have no safe guide by which to draw the line of limitation, in the scale of intelligence downward, beyond which we find no evidence to support my statement, when I read in a journal of science of a man in England who had trained quite a number of *fleas!*—to such an extent that he could hitch them to a cart purposely made for them, and to draw it, as horses do a wagon. And several other things he had taught those little creatures to do—all by the constant and persistent exercise of tact, patience and *kindness* toward them.

"I don't pretend to know how a flea can appreciate human kindness—I am only speaking of the fact as reported. I am convinced, however, mainly by personal observation since I began to handle bees, that in some mysterious way they can and do appreciate kind treatment. In the same way I have also learned that they have a keen appreciation or comprehension, of the other *kind* of treatment; and you know as well as I do how promptly and effectively they resent it.

"Looking at the matter, therefore, from the point of view here indicated, Mr. Bond, it is surely not a waste of time on my part to make the explanation of this principle a feature of our lesson.

"Several times, on various occasions, visiting friends have asked me, when they saw me at work among my bees, how I could do it all without getting stung to death. My answer nearly always is, *Because my bees know me.* They seem to know my touch. Possibly they also know my voice. Certainly they know me by their keen sense of smell.

"Mark that last statement well, Mr. Bond," I continued, looking sharply into his eyes through the meshes of his bee-veil as I spoke. "It is of greater importance than you may think; not because it is a controverted proposition among the most intelligent class of bee-keepers, but because as a positive statement between you and me, it implies that I mean it, that I believe it because I have been convinced of its correctness by evidence that satisfied my reason.

"Yes, Mr. Bond," I continued, impressively, "it is one of the articles of my bee-keeper's creed, that, *Bees have a keen sense of smell*, and I'm not ashamed of it—neither am I fanatical enough to be ready to fight for it. And—let me tell you this in strict confidence, Mr. Bond—whenever I hear of an intelligent, well-educated man who, as a professed bee-keeper, denies, point-blank and *on foot*, that article of my creed, I intuitively suspect him of all, or at least some, of such unprofessional habits as the smoking and chewing of tobacco, drinking of whiskey, and eating of garlic and limburger cheese.

"I know very well that it sounds like a silly paradox to make a statement of that sort," I hastily commented, when I saw through his veil a plainly outlined expression of ironical incredulity upon his otherwise jovial face. "Because, the thought naturally suggests itself that the best trained and most loving bees in the world would be sure to 'go for' such a man, hot-end foremost, if he ventured within bee-smelling distance. I say, the proposition naturally assumes a paradoxical look of that sort. But the paradox is at once seen to be a delusion, in a practical sense, when I explain that it is *because* of that fact of the bees refusing to own him as a friend, that a bee-keeper thus guilty of offending their olfactory nerves persists in denying that the sense of smell is an inherent part of bee-nature. *They do go for him.*

"I fear I have wasted time in an effort to make you see the point of my argument, which I can so plainly see and feel. But, nevertheless, I trust that my effort to handle a delicate subject through the texture of the proverbial 'kid gloves' is not wholly lost."

This conciliatory comment was offered because I knew that my friend and pupil was guilty of the tobacco habit; though not of the other two.

"Beg your pardon for this digression, Mr. Bond, and for keeping you waiting to proceed with the drone-lesson. If you'll now examine the smoker to see that it is in working order, we will finish taking off that super. Of course, you remember my caution not to lift before you are sure you have a secure hold at both ends, and to be careful not to crush any bees when you set the super down."

Following my directions, Mr. Bond lifted one end of the super high enough above the frames so that he could blow a little smoke underneath it among the bees, to prevent them from making a demonstration when the super was finally lifted clear of the hive.

"This as a precaution," I explained. "It is better to do that, though it's a little more trouble because you must handle the smoker and one end of the super at the same time. You see, if you lift the super suddenly, the bees underneath are startled, not knowing what is going to happen, and, as a rule, they make a rush. The result is that often, before you can properly take care of the heavy super—supposing it to be full of honey—and get back to the hive, thousands of the bees are flying just where you want to take your stand to do the work you came there to do. To say the least, it may cause some unneccessary annoyance to have it that way. But there are times and circumstances when something very much worse than annoyance may be the result. As, for instance: the entire colony may become alarmed and assume a belligerent attitude, especially when you are handling old bees, and at a time when there is only a light honey-flow. Or, the colonies nearest the hive you are working at may be aroused by the alarm-signal given by the flying bees. In that case they will first mingle with those in the air to investigate the cause of the commotion; but, almost invariably in such an instance, these neighbor-meddlers will next proceed to investigate the open hive, with the result, well-known to all practical bee-keepers, that you have a case of robbing on your hands when you were least expecting it.

"I am telling you all this at this time, Mr. Bond, in order that you may be on your guard for such emergencies whenever in the future you have a job like this to do. 'An ounce of prevention is worth a pound of cure,' applies here, Mr. Bond, in the sense that a little precaution, with a little smoke judiciously applied, will often prevent—well, it's hard telling what not. Every experienced bee-keeper will endorse that, I think.

"Now for the drones," I said, after Mr. Bond had deposited the super, without crushing bees or getting stings on his hands, and had returned to my side near the hive.

"Please take this prying instrument"—handing him my old chisel—"and show me how nicely, carefully and gently you can loosen the ends of those brood-frames with it without alarming the bees. They are all glued fast, more or less securely, hence you must avoid sudden snaps and jerks."

Mr. Bond took the chisel and bravely began the job. He was getting along very well until he reached the last frame. The bees had done a little more work on that, seemingly, than elsewhere, and as a consequence my friend had a little more trouble with it, and was obliged to use a little more force to loosen it. Quite suddenly—as such mishaps, especially in the apiary, always do happen—his chisel slipped and down went the frame with a bang. Before I had time to use the smoker, or he to realize what had happened, about a score of bees make a dive at his naked hands. Fortunately, I had told him the day before that when ever bees did that, to keep his hands perfectly still for a moment and not to jerk them back; for if he did that they would surely sting. This he now remembered and put into practice, with the result that, though most of the assaulting bees went through the maneuvre of stinging, not one of them made earnest of it.

"Good! good!" I shouted approvingly. "Now you are initiated, Mr. Bond. That kind of an experience is to a bee-keeper recruit what the first charge in the first battle is to an army recruit. I think you can stand fire now, Mr. Bond, when you and any man's bees get into a fracas.

"Go ahead now and lift those frames out for inspection. You can do it as well as I can. Begin with the one you have just loosened and hand it to me; I want to see whether there is any drone-brood on it or not."

(To be continued.)

Biographical.

MR. ROBERT WILKIN.

We present on the first page this week the latest picture of one of the leading pioneer bee-keepers of California—R. Wilkin. His son-in-law, Mr. J. F. McIntyre, has kindly sent us the following biographical sketch:

Robert Wilkin was born near Londonderry, Guernsey Co., Ohio, July 4, 1829, and died at Newhall, Calif., May 30, 1901. He leaves two daughters, Mrs. J. F. McIntyre and Mrs. J. M. Owens, and 8 grandchildren.

He was educated at Westminster College, New Wilmington, Pa. Soon after leaving college he married Eliza Williamson, who had attended the college at the same time. He had one daughter, Harriet, by this marriage, his wife dying when the child was 9 months old. About 4 years later he married Isabella Gordon, by whom he had one daughter, Mary. His second wife died in 1888.

Mr. Wilkin made a specialty of the bee-business for nearly 40 years; he left a journal of the business from 1862 to 1901, in which I find many interesting items. His first investment in this line was to buy the patent-right to make and sell the Langstroth hive in several counties in Ohio. This venture was not a financial success. The next venture was to buy up a lot of black bees, transfer and Italianize them, and commenced the business of selling Italian queens, and colonies, at Cadiz, Ohio.

I find among the first items that he paid L. L. Langstroth $25 for an imported Italian queen, and sold 20 colonies of Italian bees at $20 each. An item in November, 1871, says: "I have 300 nuclei, and have sold this year over 800 Italian queens at $6 each. Nov. 5, 1872: I reared this season 2,000 queens; 400 of these were sold at $250 per hundred, and the balance at $5 to $6 each; and bought of A. Grimm 72 colonies of pure Italian bees at $11 each."

This was too good to last, for on May 15, 1873, he writes: "Of my 315 hives of bees in the fall, only 61 are alive now." "June 5, 1873, bought of Dr. J. J. Adair, 85 colonies of bees at $6 each." He continued to lose his bees in winter and buy more in the spring to carry on queen-rearing, until the spring of 1874, when he moved all of his bees and family to Oskaloosa, Iowa, to try producing basswood honey. After two seasons of failure and loss of bees here he moved all of the bees he had left—240 colonies—and his family, to San Buenaventura, Calif., arriving Nov. 6, 1875.

In 1871 he wrote a book of 96 pages, entitled, "Hand-Book of Bee-Culture;" price, 25 cents. But he gave away more than he sold, to save himself the trouble of answering so many questions while selling queens. The book is now out of print.

After coming to California he turned his attention entirely to the production of extracted honey. California honey had not made its reputation at this time, and it was hard to dispose of large crops, and on Nov. 1, 1878, he left his bees in charge of E. Gallup, while he went to England to sell his crop of 40,000 pounds of extracted honey. Subsequently he made trips to Boston and Texas to sell honey. His largest crop was 100,000 pounds from 1,000 colonies in 3 apiaries in 1884. He retained his interest and enthusiasm in bees to the time of his death, and was actively engaged in hiving swarms when he was taken with cholera morbus, and after 12 days' sickness died on May 30, at the age of 71 years and 11 months.

Mr. Wilkin was president of the California State Bee-Keepers' Association during the last two years. His hobby was co-operation. He was always willing to lend a helping hand in a good cause, and served his country during the Civil War in the 42d Ohio Volunteer Infantry.

J. F. McINTYRE.

One by one the bee-keeping pioneers are passing away. Soon there will be none left to give personal reminiscences of the days of Langstroth, and Quinby, and Wagner.

California has perhaps led in the line of extensive apiaries, Mr. J. S. Harbison (still living, we believe) leading at one time with his 6,000 colonies of bees—the largest bee-keeper in all the world. Next to him likely came Mr. Wilkin, at least in the size of his honey crops, as mentioned by Mr. McIntyre.

But what of the future of bee-keeping? Will there arise worthy successors of the noble ones who have lived, labored, and then passed on? Yes, we believe there will be. Already a new interest is being taken in bees and the production of honey in many localities. The bee-keepers of the present are taking advantage of the experiences of the past, and with the progress of the present will undoubtedly surpass even the wonderful results attained by those of the years gone by.

Our pursuit is an honorable one. Indeed, "Our toil doth sweeten others." And as the years come and go, "others" will include more and more of the sweet-loving public that now know not the taste of "nectar fit for the gods"—delicious honey.

Above all things let us strive to emulate the grand examples as shown by the lives of those who have been translated to that Heavenly sphere, such as Langstroth, Quinby, Cary, Wilkin, and many more that might be named did time and space permit.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses. By E. E. HASTY, Sta. B Rural, Toledo, O.

LIVING ON HONEY ENTIRELY.

I wonder how nearly a man could come to living entirely on honey—a man not a laborer, but one whose work is mainly mental. In other words, I wonder how much of a lie that is on page 365 where it says Pythagoras lived only on honey. I have hung up in my den a funny picture entitled, "George Washington trying to tell a lie." May it not have been that this was the one he was trying to tell?

A QUEER KIND OF ORNAMENT.

We've seen many sorts of things to ornament apiaries, but never strings of decapitated human heads before. Ask Mr. Haun if his State has "done gone" and annexed itself to Borneo. Frontispiece No. 24.

COUNTING BEES BEFORE THEY'RE HATCHED.

My parents came to Ohio in 1843. Suppose I should reason on how many Hastys of the stock there ought to be here, instead of saying how many there are. When a chap starts in to count a colony of bees by saying: "The queen has laid so many eggs per day for so many days;" then's the time to hustle him toward the door—just a little, you know. Counting bees before they are hatched is not better mathematics than counting chickens before they are hatched, but decidedly the reverse. Amount of inside surface in the hive, and general number of bees to the square inch, will yield a better approximation than egg-counting can do. Yes, we'd like to know who's got the most numerous straight colony; and it's sadly awkward that weighing bees is so much trouble except at swarming-time. Page 371.

A HOMELESS QUEEN.

I would say to Mr. Crafton, page 381, that it isn't very common for queens to be 'lighting down upon us at our work. As for one way it might have happened, perchance a colony had been superseding its queen, and as usual reared several of them. Two chanced to emerge about the same time. One was accepted; and the other (the bees not wishing to swarm) was driven out of the hive. Finding herself homeless she prospected the open hive you were at work at to see what it might offer in the way of a home.

BEES AND GROCERIES.

Dr. Mary McCoy writes up an exceptional location in an entertaining way on page 387. Abundant pasturage on two first-class honey-plants, and scarcely anything else. One could well afford to do some feeding in spring if tolerably sure of a midsummer and fall with fair honey-flow of white honey. It looks as if grocers as well as other men are reasoning creatures. Unusual quantities of bees *shipped with the fruit*, when a masked apiary close by begins to need shipping. In a small city, where the number of dealers having exposed

sweets is small, something is possible in the way of posting each one as to the habits of bees. Tell them sweets in a store will be as sacred as sweets in a home pantry if you "shoo" the first ones away and don't let them get begun. Tell them also that screening often is only needed for two or three days, until a mysterious change in weather conditions makes the flowers "give down"—after which the flowers have the preference.

QUEEN ACCEPTING THE COLONY.

I think Editor Pender is on the right track in jogging our minds concerning the fact that *the queen must accept the colony* as well as the colony accept the queen. Curiously hunger is the best peace-maker on her side, and the opposite of hunger a very necessary peace-maker on their side. Page 383.

PARTLY FILLED SECTIONS FOR BAIT.

Let's sing some more about taking partly filled sections, bees and all, to start laggards at storing honey. No experience myself (so I can sing more freely). I have wondered just a little if the wise old chaps who recommend this have figured high enough on the hinderment the good colony suffers. You see, if we let a good hand spend half his day making a tramp work, and said tramp does ¼ of a day's work, we have scored a loss of 25 percent. My practice is, and my advice is strongly in the same direction, to keep bees for comb honey that don't need any such fussing. Page 387.

HINTS ON SELLING EXTRACTED HONEY.

On page 388, G. H. Pond strikes the heart of an important matter when he deprecates too large sales at one time. A lot of old candied honey well punctured with dead flies and ants—well, if an adversary wanted to keep a honey-loving family from buying any honey 800 years he couldn't contrive any better way. "Got a great lot of it on hand and can't buy till we eat it up." And it looks so repulsive they never eat it up. His experience with grocers is also interesting. Told many of them just how to reliquefy—they said they would—no one ever did. 'Spects that would be pretty much the same everywhere. So if a fatal drooping of sales is to be prevented at all, the man who furnishes the honey must see to it that it is kept in liquid condition.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

NATURE STUDY.

"Flower in the crannied wall,
I pluck you out of the cranny;
I hold you here in my hand,
Little flower; and if I could but understand
What you are, root and all, and all in all,
I would know what God and man is."

Those beautiful lines from the great author, Tennyson, are rich in suggestion, and show the heart of the great poet-laureate of England. It is beautiful for us all to know the flowers, to know the birds, to be intimate with butterfly, moth and beetle. These gems of God's handiwork are intrinsically beautiful. To be on speaking terms with them, to look deeply into their beauty and mysteries, day by day, is to enrich and refine the life. Peering into their wondrous secrets is ever full of sweetest and best entertainment, is ever startling us with surprises, is ever bringing us to know more of God's wondrous ways.

And how we constantly learn to see more and more as we study these wondrous fashionings right from God's own hands. Did the great poet overstate the truth when he said that to know the flower thoroughly was to know God and man? I am sure, to know the flower and insect will bring us as near God as will anything we may study, and will make us more alive with human sympathy. If, as we are often told, the country folk are more pure and true than others, may it not be that the influence of plant and flower has worked to sweeten and ennoble life?

New York, through a beautifully wholesome work of Cornell University, is bringing nature study into all the country schools, and so into all the homes. God be praised for this splendid undertaking. We may well bring it into all our home circles. Can we not get all our States to follow New York's most admirable example, and all have the leaflet, the lesson helps, and every bid to foster this glorious nature study? Let us all urge it upon our colleges and legislatures. A little seed here will bear a most bountiful harvest.

In the meantime, let us all get the children to study flower, insect and bird. Let us with the children see just when the birds come back in spring; when and how they build their nests; how they move on the ground; how attentive and faithful the male is to his mate; how the color of the male compares in brightness with the female; which of these do the singing, and when they sing sweetest and best.

Again, let us note what insects seek and sip nectar; why wasps are about the sticky mud near well or hydrant; how the butterfly fixes her wings when she alights; whether moths do the same; why the leaves of our plants are ragged; and countless other things that will be so full of interest that we shall find our days too short, and will sing with new meaning Faber's beautiful hymn:

"There's a wideness in God's mercy,
Like the wideness of the sea."

THOROUGH WORK.

It was a great compliment that a young man received in my hearing from an older person, a day or two since: "I must have you at any price. You do your work so well." Do we as parents appreciate the meaning of these words—"good work?" I had a boy work for me for 3 years. He was a joy every day. He never slighted anything nor did he do one thing less perfectly because no eye was looking on. It was a great misfortune that I could not secure his help this year. He could do better elsewhere. He will constantly progress. Promotions will come thick and fast. People will fairly tumble over each other in their eagerness to secure his services. His life will be a happy one, because successful. He will always be wanted, as he will always have something most valuable to give. His work will always be speaking his praise.

Can we devote time more wisely than by use of both precept and example, to beget in our children the fixed and certain habit of doing everything well—the very best that they can? Can we use a better means than to be generous with approval? Mrs. Cook often asked me if I were not afraid of spoiling Mr. ——— by my words of approbation. I never saw any evil in dealing out such just praise in great, liberal, allopathic doses. In my observation, nagging, fault-finding, sarcastic jeers go very little towards making people better. I do have great faith in the use of timely and honest praise for work well done. True, we may overdo our praise of virtue, but I think we are oftentimes far too chary in awarding it.

I am sure that there are very few things that count so largely in making life a great success as the habit of doing all that comes to our hands in the very best possible way. Christ was perfection. He always did his best—and the best.

GRIT.

I have always admired the stanza from the Irishman who told how he secured so good a shillalah for use in his police duties:

"I take for stick the scraggedest,
The thorniest, knottiest, raggedest,
The thorniest, knottiest, snaggedest,
Be it buckthorn, be it oak;
I pluck the flowers so swatly,
Leave knot and thorns so nately.
And for seven long days complately
It must soak, and soak, and soak."

There is a whole lot of philosophy in this. Our worst passions and most forbidding traits may become our ornaments if held in check and made to bless and not curse. We may well leave the knots "complately" if we will only use enough of the hard polishing to smooth them down. The great thing to remember, we must let the hard, forbidding sticks of character "soak, and soak, and soak."

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

The Premiums offered this week are well worth working for. Look at them.

To Our Shippers.

About May 1st last, we removed our business from the buildings 120–122 W. Broadway to larger and more commodious quarters at Nos. 265–267 Greenwich St., and 82, 84, 86 Murray St., and we duly sent to our friends in the trade a notice of our removal. Shortly after we vacated the premises (120–122 W. Broadway,) one Joseph M. McCaul, rented a portion of our old quarters, and hung out a sign, "Hildreth, McCaul Co., Jos. M. McCaul, Prop.," with other large signs to the effect that his business is "headquarters for honey, beeswax, maple sugar and maple syrup."

The mercantile agencies report that Jos. M. McCaul is the sole proprietor of the new business, and that he claims to have paid to one Henry P. Hildreth (who has no connection with our business,) a consideration for the use of his name.

We will not comment upon the act of leasing our old quarters and exposing thereon the sign, "Hildreth, McCaul Co.," further than to state that we have instructed our attorneys to apply for an injunction restraining the said McCaul from using the name of "Hildreth" in connection with his business in any manner whatsoever.

We value highly the good name and business we have established by many years of satisfactory dealing with our friends in the trade, and we therefore send this notice so that you may not possibly confound us in any manner with the so-called "Hildreth, McCaul Co."

Our firm name remains as heretofore, and all our business is carried on at our new quarters—

Nos. 265=267 Greenwich Street,
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Respectfully yours,

HILDRETH & SEGELKEN.

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I like your way of packing bees to express. E. K. MEREDITH, Batavia, Ill.

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Number of Queens	1	6	12
GOLDEN QUEENS.			
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Select Tested	2.00	9.00	16 00
Breeders	5.00		
HONEY QUEENS.			
Untested	$ .75	$4.00	$ 7.00
Tested	1.25	6.50	10.00
Select Tested	1.50	7.00	12.00

Safe arrival guaranteed. Descriptive price-list free. **D. J. BLOCHER, Pearl City, Ill.**

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GENERAL ITEMS

Good Honey-Flow.

Bees are doing well, and are in good condition. The honey-flow is good—never better. From June 5 to June 15 it was cold and windy. We have had no swarms to amount to anything. I have taken off nearly 3000 pounds of honey. G. W. VANGUNDY.

Uinta Co., Utah, July 7.

Short Crop of Honey.

The basswood honey-flow is over with us, and a very short crop. We are having a drouth in this part of the State, that is hurting everything. The pastures would burn.

W. J. PICKARD.

Richland Co., Wis., July 13.

Queen-Rearing.

The greatest trouble in queen-rearing is making up the nuclei to receive the cells. Many good colonies have to be divided in forming these nuclei, and there is always a loss to the apiarist. I have used the following plan for a good many years, with very little trouble:

I have two extracting supers on every brood-chamber, and after the honey season is over I take from the top super two combs, and put two brood-combs in place of them. The next day I give them a queen-cell, and raise the cover a little to make an entrance. As soon as the queen hatches the bees will gladly receive her. Mating soon takes place, and I have a laying queen in the super. As soon as the queen is taken out I destroy all queen cells, and the work is done.

Year after year I have succeeded in rearing a number of queens in this way without any loss or hindrance in my apiary.

Jamaica. JOSEPHUS SMALL.

Do Bees Select Their Future Home Before Swarming?

This subject is attracting some attention among the readers of the American Bee Journal, and I have been amused at the various views expressed by "Rip Van Winkle," on page 429.

I have been a bee-hunter ever since the '60's and have found hundreds of swarms under almost every conceivable condition, from a hole in the ground to a WHOLE lot of other places, and my opinion is that it depends altogether upon circumstances.

If the parent colony happens to be located near, or within a mile or so of a timber lot, and if the bees have visited it for honey, and the trees are large, with suitable holes to make homes for bees, if you are in those woods during the swarming season you will see bees looking the trees over. These searcher bees are from a colony near by about ready to swarm, or they are from a swarm that has clustered near by that may have come many miles without discovering a home to suit them.

I have kept bees for many years, and have been situated near the timber and also on the prairies, and have studied their habits. On the prairie four miles from timber I have had swarms strike out, and they must have gone many miles before finding even a bush to settle on, and they were first swarms, too. They certainly had not selected a future home. When located near the timber I used to go into the woods in early swarming-time and see the searcher bees looking the trees over for a home, and would find them cleaning out a hollow tree, or sometimes two or three of them, and have sometimes followed them from the hive to the tree they were preparing two or three days before, and in these cases, of course, they had selected their future homes before swarming.

Again, I have followed a swarm *seven miles*

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through the timber, where there were fine places for a home for it, and would at last find it in an inferior place not fit for bees to winter in. This swarm went about five miles before reaching the timber, and had clustered twice before selecting a home. But had the parent colony been situated near the timber the swarm probably would have selected its home before swarming.

So, I think, as I said in the beginning, that it depends altogether upon circumstances, whether they select their home before swarming or not; and I have come to this conclusion from an experience second to none west of the Mississippi River, on this particular subject. If Mr. "Rip Van Winkle" doubts my source of information I can refer him to any bee-keeper in this part of South Dakota.

J. M. HOBBS.

Yankton Co., S. Dak., July 8.

Sweet Clover—White-Eyed Drones.

A few months ago I had the pleasure of visiting a bee-keeping friend, one of the veterans in our State, whose painstaking and methodical thoroughness in all that pertains to the craft may well be an inspiration to those of more slipshod ways. He is modest and unassuming, and as ready to listen as to talk. He remarked that he had seen nothing from me in the bee-papers for a long time, and I had to own it as a fact that the little creatures keep me so busy that I have not much inclination to write. They are doing better than usual for the time of year, and I ascribe that largely to the yellow sweet clover that I am growing. I have a small field of it, and also have it scattered in nooks and corners. It blooms here early in June—just about a month ahead of the white variety, which I have had for years. It promises to be quite a boon to my locality, coming as it does when ordinarily there is little for the bees to gather from. I have had to feed bees in June more than once, but this year I must either divide colonies or take care of swarms.

I had been thinking that my enthusiasm was waning somewhat under the pressure of crowding duties, but it all comes back to me when I get after a swarm.

I have been puzzled lately over some drones that seem to be normal, except that they have white eyes. I don't remember noticing any of that kind before, and don't know what to think of them.

MRS. A. L. AMOS.

Custer Co., Nebr., June 27.

Second-Hand Cans, Etc.

FRIEND YORK:—I notice on page 441 that "Afterthought" thinks it important to comment on an item contained in a private letter to you, which you thought proper to publish in May 16th issue. Now, there was no theory advanced respecting bee-keeping, nor anything else, but a simple statement of fact, and what point he seeks to make I am too dull of comprehension to discover. If he intends to cast discredit on the statement of fact, he simply advertises himself as anything but a gentleman.

It may be that the item "winged" him—as sportsmen would say—as he may be a dealer in SECOND-HAND CANS—old Standard Oil Co. cans—any old rusty can that he can palm off on honey-canners. When he talks about time or space to fill, and nothing with which to fill it, the idea may be aptly applied to the column over which he presides, in numberless instances which might be referred to.

For instance, take the item headed, "Mr. Doolittle and Our Country." The entire Bee Journal could be filled with arguments, facts and figures, to show the falsity, or fallacy, of the idea intended to be conveyed, if one can be gathered from what he says. If foreigners come over here and invest their money, somebody gets it; if they are successful, so much the better for every one concerned in the business, from the highest to the lowest laborer; if they finally sell out and take their money back to a foreign land, some one has made enough to buy them out, and has the business; if they invest in any of our bonds, their money goes into large business enterprises, like railroads, or manufacturing industries; if their bonds are finally paid with the accrued interest, it only shows success of great enterprises.

No one need worry, nor have any sleepless nights over our ability to stand all such drains upon our life-blood—the old "ox in the pasture" doesn't realize that it's even *fly time*. But why pursue the subject?

Again, referring to the "daughter thrown in," in the manner in which he does it. There are many wealthy Americans, as well as many who are not so wealthy, whose daughters, worthy of every mark of consideration and respect, exercise the right—as I presume "Afterthought" would claim for himself—to select a partner for life from among those they think proper, and many of them marry husbands of foreign birth.

But to return to the cans. Those cans were bought of George W. York & Co. How does "Afterthought" know, or what does he care, how many "*dimes*" were paid for, or lost on, them? Of what interest is it to him, or the public, whether much or little was lost on them, unless, as suggested, he may be in the SECOND-HAND business?

WM. M. WHITNEY.

Kankakee Co., Ill., July 15.

Good Season for Bees.

This has been a very good season here, and the bees are doing nicely.

J. WARREN SHERMAN.

Suffolk Co., N. Y., July 12.

Dry and Hot.

I have 45 colonies of bees, all in fine condition, although it is very dry and hot, the temperature being 104 degrees in the shade. Yet my bees are gathering some honey from sweet clover.

SAMUEL H. HITT.

Jo Daviess Co., Ill., July 16.

Selecting a Home Before Swarming.

Two years ago I had an empty hive under a shed not more than 10 feet from the working colonies. One day my wife said that she saw bees coming out of that hive, and wanted to know if I had put a swarm into it. I replied that I had not. That afternoon a swarm issued from one of the old colonies, and we put it into that hive. The next day a swarm came to us from the northeast, and settled on a small cherry-tree not more than 20 feet from where the empty hive had been. It looks very much as though that stray swarm had intended to take possession of that empty hive, but finding it gone they settled on the cherry-tree. (I got 'em.)

On June 15 I had two swarms go together, and in 17 days the brood-chamber was filled, and I took off 24 fine sections of clover honey.

YOUNG BEE-KEEPER.

Logan Co., Ill., July 8.

Heavy Losses—Ahead of Dr. Miller.

I find that some bee-keepers in this locality have had bad luck, having lost all they had. A great many colonies died in the fall, or soon after, as there was no honey around here at that time. I saved 10 out of 22, and this is the first time I ever lost any in wintering.

My bees are swarming more than I want them to this season. I have one colony that has not swarmed in five years, and they have always stored more than any other two, but they are very weak now, and I think the queen must be worn out.

I have worked with bees, off and on, ever since I was a boy, and I am now 78 years old, and never have to wear glasses. I can take dog and gun and hunt from morning till night, and am as good a shot as ever. My wife is 74, and quite strong. We have been married 56 years, and have had 15 children. I think that beats Dr. Miller's 70 years.

I keep bees because I like them. Sometimes they are somewhat ugly, but if 500 were to sting me it would not hurt.

HENRY WHITE.

Humboldt Co., Iowa, July 1.

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This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.
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Wanted By two Apiarists of 10 and 12 years' experience with bees, to correspond with some party who has about 400 colonies of bees to let on shares to run for extracted honey for 1902, in a location free from disease—irrigated alfalfa region preferred. Reference given and required. Address either Ervin Barton, West Township, N. Y., or P. W. Stahlman, West Berne, N. Y. 30Alt

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BEEDOM BOILED DOWN

An Overgrown Putty-Knife.

This is a tool used with great satisfaction by S. E. Miller in the apiary. He tells of it in the Progressive Bee-Keeper:

Made of about one-sixteenth inch steel, 2½ inches broad at the sharp end, tapering to about 1¼ inches 6 inches from end or where the handle commences. The handle is made of two half-round pieces of wood riveted on each side, the same as handles are put on butcher-knives or table-knives. It is ground alike on both sides, so that it does not matter which side is up when I go to use it.

When I get this blade between two bodies, or a body and cover, and begin to pry, it has to come, no matter how much propolis. The tool being large and strong (nearly a foot long) gives a great leverage, and no great effort is required in using it. I can take it slow and steady and bring two bodies apart without a snap. It will take the burr-comb from two top-bars at once. It is handy to clean bottom-boards, queen-excluders, and, in fact, almost anything where scraping is needed. I frequently use it to dig with when leveling up hives.

Improving Our Stock.

Here are some words well spoken by "The Worker," in the Australian Review:

Were I forming rules for judging Italian bees, I would place the points about like this: Honey-gathering, 80; prolificness, 10; gentleness, 5; color, 5; total, 100. It is so much easier to breed for color than for honey-production, that it will be some time before all of the bee-keepers in our land get into line. Some will say, "Oh, the Italian bees are good enough as they are, so long as we keep them of the three-banded strain." Others will say, "We want our bees to look beautiful; they will get the honey if there is any in the flowers." This is a mistake a great many make. I have had a lot of people say to me:

"What is the use of all your fussing, and breeding this and that? If there is no honey in the flowers the bees can't get it, no matter where they are."

I admit that, but when there is honey in the flowers the good strains will gather much more than the poor ones will. It is not so noticeable in a good season as a rather poor one. Before I commenced breeding for honey-gathering my colonies would vary much in the quantity of honey stored. I remember one year one colony gave me over 100 pounds of honey, while others only gave 30 pounds, and the average of the whole yard was under 20 pounds per colony. How I wish I had that queen now.

By careful breeding I now have my bees as nearly alike as regards honey-gathering as one could desire. Last year there was scarcely a pound of difference in the whole yard, and it was only a fair season for honey. Brethren, let us be ever on the watch for the queen whose bees excel in storing honey, and then breed from her, thus ever improving our stock.

Stimulative Feeding in Spring.

This has sometimes been spoken of as a two-edged sword, cutting both ways. Practiced at a time when bees are tempted to fly out in bad weather only to be lost, it may tend to diminish rather than increase the number of bees in the hive. G. M. Doolittle gives in the Progressive Bee-Keeper another phase of the matter, as follows:

During all the past we have heard much of stimulative feeding, with no hints that such might be a failure at certain times, but from past experiments and experience, I find there are times when feeding, or other stimulative

(Exact size of the Pen.)

FREE as a.... Premium

A Foster Stylographic PEN....

This pen consists of a **hard rubber** holder, tapering to a **round point,** and writes as smoothly as a lead-pencil. The **point** and **needle** of the pen are made of **platina,** alloyed with **iridium**—substances of great durability which are not affected by the action of any kind of ink.

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As they make a line of **uniform width** at all times they are **unequaled for ruling purposes.**

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via the Nickel Plate Road from Chicago, for the Pan-American Exposition. Tickets on sale daily, good leaving Buffalo up to midnight of the 10th day from and including date of sale. Also tickets on sale daily Chicago to Buffalo and return at $16.00 for the round trip, with 15-day limit, including date of sale. $21.00 Chicago to Buffalo and return, good for 30 days.

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16-28A3t

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Excellent shipping facilities and very low freight rates for Southern and Eastern territories.

25 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 25 cents a pound—CASH—for best yellow, upon its receipt, or 27 cents in trade. Impure wax not taken at any price.

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Tennessee Queens!

Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3¼ miles apart, and mated to select drones, $1.50 each; untested warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and but few within 5 miles. 28 years' experience. Discount on large orders. Contracts with dealers a specialty. JOHN M. DAVIS,
6A26t Spring Hill, Tenn.

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Not a Hybrid Among Them.
IMPROVED STRAIN GOLDEN ITALIANS.

World-wide reputation. 75 cts. each; 6 for $4.00.

Long-Tongued 3-Banded Italians

bred from stock whose tongues measured 25-100 inch. These are the red clover hustlers of America.

75c each, or 6 for $4.00. Safe arrival guaranteed. FRED W. MUTH & CO.
Headquarters for Bee-Keepers' Supplies,
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Catalog on application. CINCINNATI, O.

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Marshfield Manufacturing Company.

Our Specialty is making **SECTIONS**, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

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Red Clover Queens

LONG-TONGUED BEES ARE DEMANDED NOW.

ONE Untested Italian Queen FREE as a Premium for sending us TWO new subscribers to the American Bee Journal for one year (with $2); or, one Tested Queen free as a premium for sending us FOUR new subscribers with $4.00).

We have arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us the coming season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

All queens guaranteed to arrive in good condition, and all will be clipped, unless otherwise ordered.

CASH PRICES of these fine queens will be as follows: Untested, $1.00 each; Tested, $2.00 each. Send all orders to

GEORGE W. YORK & CO.
144 & 146 Erie St., CHICAGO, ILL.

Please Mention the Bee Journal when writing Advertisers

work, brings no adequate returns. The queen lays only as she is fed stimulative food by the workers, and the workers will feed her only this stimulative food when there is some reasonable prospect for a successful outcome. And while feeding will bridge over three or four days of bad weather, or even a week, yet there comes a time when they seem to lose hope and settle down on the firm determination that they will make no further efforts at "expansion" till they see some sign that there is to be propitious weather in the future. And during such long-continued, cold, wet spells as the present, I have found that the colony which was fed every day had very little, if any, more eggs or larvæ in the hive at the end of two weeks than did the one having a reasonable allowance of stores, which had not been feed at all. But when we have fairly comfortable weather, but a dearth of nectar from no flowers being in bloom, or those in bloom not yielding any nectar, then good results can be obtained in feeding, or other ways of stimulating.

Close Imitation of Natural Swarming.

This is given as follows by G. M. Doolittle, in Gleanings in Bee-Culture, in a conversation with a neighbor, the first question being asked by Mr. Doolittle:

"Have you any queen-cells on hand?"

"I suppose there are plenty in any of those hives which have swarmed during the last week."

"You will see why I asked about the queen-cells before we get through. Now, to the plan: Take a box holding from three pecks to a bushel, and place it on a wide board a few feet from the hive you wish to make the swarm from, raising the front edge on a little block, enough so the bees can run under. Now open the hive you wish to make the swarm from, and find the queen, caging her on one of the combs, when all the frames are put back in the hive again. If you do not see plenty of unsealed honey, uncap some along the top-bars of the frames and close the hive. Now blow in quite a little smoke at the entrance of the hive, and rap on the sides of it as you would in driving bees, rapping at intervals, and leaving the entrance open so that the bees returning from the fields may enter the hive. In from five to eight minutes open the hive and take out the frames and shake the bees in front of the box, and thus continue till you get at least three-fourths of the bees in the box. When you come to the frame which has the queen on it, place her at the entrance of the box, and let her run in with the bees. When you get the desired amount of bees in the box, put the frames back in the hive and close it."

"Why do you run the bees into such a box instead of into a hive all prepared for them?"

"If you will not be impatient I will tell you so you will see the reason. Now, we will suppose that you have three-fourths of the bees and the queen in your box. You are next to take the box of bees to the shade of some tree and lean the box against the tree in an inclined position, with the open side of the box outward, leaving it there three-quarters of an hour, at which time you will find them clustered in the upper part of the box as they would be on the limb of a tree, if they had swarmed naturally. During the three-quarters of an hour, if you have more to make, keep on making from other hives in the same way. At the end of the time, hive the bees that are in the box, the same as you would hive any natural swarm. Put the hive on the stand you wish them to occupy, and see that all of them go into the hive, and they will stay and work the same as a natural swarm would."

"Then this leaving them the three-quarters of an hour with the open side of the box out is to make them think they have left home, so they will mark their location as does a swarm?"

"Exactly."

"I see now why mine would not stay when I shook them into a hive. But what about what is left in the old hive?"

"The next day, after making such a swarm, give the old colony a queen-cell from one of

the hives you say have such, giving cells from the colonies which have those the nearest ripe, and the work is done. If you have stopped to think as we went along you will see that you have bees of all ages in your 'made swarm,' just as there would be in a natural swarm, and that each bee has its sac full of honey the same as they do when they come out themselves, the drumming causing them to fill themselves full more completely than they do when swarming. By being left three-quarters of an hour to cluster in the box they mark their location anew, the same as a natural swarm, as you expressed a few moments ago."

"But is the old colony in as good condition as if it had swarmed naturally?"

"I think so, fully, and more so; for in natural swarming the first young queen does not emerge from her cell in less than seven days, unless the swarm has been kept back by bad weather; while with our made swarm, and a ripe cell being given, they will have a queen in two days from the time of making. If preferred, and you have them, a laying queen can be given to the old colony."

"Why would not this be a good plan to work an out-apiary, where there is no one to take care of swarms when they issue?"

"It would. And it is equally adapted for those who can not be at home between the hours of 8 a.m. and 4 p.m. to care for their bees when swarming naturally."

—THE—

Bee-Keeper's Guide

Or, Manual of the Apiary,

—BY—

PROF. A. J. COOK.

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A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book published to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipped, or his library complete, without THE BEE-KEEPERS' GUIDE.

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Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let every body try for it. Will YOU have one?

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M. H. HUNT & SON, Bell Branch, Wayne Co., Mich.

Please mention Bee Journal when writing.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, July 18.—Choice white comb honey is arriving rather more freely and brings 15c. There is no accumulation at this writing, as receipts sell within a week after arriving, some of them on the same day. Amber grades bring about 12c. Extracted dull and slow of sale at anything over 5@5½c. Beeswax steady at 30c with good demand. R. A. BURNETT & CO.

CINCINNATI, May 17.—No demand for comb honey, also stock of it well exhausted. Extracted very dull; sales are more or less forced; lower prices from ½ to 1 cent per pound.
C. H. W. WEBER.

BOSTON, June 20.—There is practically no comb honey in our market, and owing to warm weather very little call for it. Are expecting some new comb early next month. Market for extracted dull, at 6½@7½c.
BLAKE, SCOTT & LEE.

OMAHA, May 1.—Comb honey, extra white, 24-frame cases, per case, $3.40; No. 1, $3.25; amber, $3.00. PEYCKE BROS.

NEW YORK, July 8—Our market is practically bare of comb honey, and demand good for white comb. Fancy stock sells readily at 15c; No. 1 white at from 13@14c, and amber at 11@12c. Extracted not in much demand, with plenty of supply; white, 6@6½c; light amber, 5½c; dark, 4½@5c. Beeswax firm at 29c.
HILDRETH & SEGELKEN.

ALBANY, N. Y., June 18.—Honey market is dull with no receipts or stocks and little demand. It is between seasons now. Prospect of good crop in this vicinity from what bees there are left, the greater portion having been killed by foul brood exterminators. H. R. WRIGHT.

DETROIT, July 18.—Fancy white, 15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c; dark and amber, 5@6c. Beeswax, 26c.
M. H. HUNT & SON.

BUFFALO, July 10.—No demand for honey yet unless a very small amount of fancy white at perhaps 15@16c. Some old lots still about, unsalable, almost, at 6, 8 and 10 cents. Beeswax, 22@28c. BATTERSON & CO.

KANSAS CITY, June 14.—Very little old honey on our market but what is damaged by being granulated. Sales are light at 15 cents for best grade No. 1 Colorado. Amber, 13c. Beeswax firm at 25@30c.
W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

SAN FRANCISCO, June 19.—White comb, 11½@12½ cents; amber, 9@10c; dark, 6@8 cents. Extracted, white, 5½@6½c; light amber, 4@4¼c; amber, 3½@4c. Beeswax, 26@28c.

Market shows no quotable improvement, but there are no large quantities obtainable at the prices generally named by dealers. In a small way, for especially desirable quantities, slightly higher prices than are quoted are being realized.

Wanted Fancy White Comb Honey in no-drip cases; also Extracted Honey. State price, delivered. We pay spot cash. FRED W. MUTH & Co., Front & Walnut Sts., Cincinnati, Ohio. Reference—German National Bank, Cincinnati.
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BEES WAX We will pay 28c. cash, per lb. for pure, bright yellow beeswax, and 20c. cash, per lb. for pure, dark beeswax delivered here. CHAMBERLAIN MEDICINE CO., Des Moines, Iowa.
27A13t Please mention the Bee Journal.

Wanted.

Comb and Extracted Honey. Will buy your honey no matter what quantity. Mail sample of extracted, state quality of comb honey and price expected delivered in Cincinnati. I pay promptly on receipt of goods. Refer you to Brighton German Bank, this city.
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2146-2148 Central Ave., CINCINNATI, OHIO.
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Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

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JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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FILL ALL ORDERS

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Italian Queens Warranted

Untested, 75 cts.; Tested, $1.00: Select Tested, $1.50. Half dozen or larger lots as may be agreed on. Address,

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RIVER FOREST, Oak Park Post-Office,
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And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white).....	$ .70	$1.20	$2.75	$5.00
Sweet Clover (yellow)....	1.00	1.80	4.25	8.00
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White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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I ARISE

To say to the readers of the BEE JOURNAL that

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has concluded to sell QUEENS in their season during 1901, at the following prices:

1 Untested Queen . $1.00
3 Untested Queens.. 2.25
1 Tested Queen 1.25
3 Tested Queens.... 3.00
1 select tested queen 1.50
3 " " Queens 4.00
Select Tested Queen, last year's rearing .2.50
Extra selected breeding, the very best..5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t **Borodino, Onondaga Co., N. Y.**

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24th Year Dadant's Foundation. 24th Year

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PATENT WEED-PROCESS SHEETING.

Why does it sell so well? ✻✻

Because it has always given better satisfaction than any other.
Because **in 23 years** there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Very fine pure-bred **BARRED PLYMOUTH ROCK** Chickens and Eggs for sale **at very low prices.**

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The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

Please mention Bee Journal when writing.

Red Clover Queens

✻

We have been telling you through our advertisements of the superior stock of queens we are furnishing this year, and we have abundant testimony from others corroborating our opinion. Look at the following which is only one of the numerous endorsements received.

July 5, 1901.

The bees are working as I never saw them work before, and already there is over 100 pounds of honey in the hive, and all from clover. I am led to believe that long tongues and good working qualities go together.

Yours very truly, OREL L. HERSHISER,

Supt. N. Y. State Apiarian Exhibit, Agricultural Building, Pan-American Exposition, Buffalo, N. Y.

This refers to a colony of bees on the Pan-American grounds with one of our Tested Red Clover Queens reared last season.

Our Prices are as follows:

Gleanings in Bee-Culture one year and one Untested Red Clover Queen, $2.00.

Gleanings in Bee-Culture one year with Tested Red Clover Queen, $4.00.

Gleanings in Bee-Culture one year with Select Tested Red Clover Queen, $6.00.

If you want something good you can not do better than to order one of these queens. All orders are filled promptly. No extra postage on these offers to foreign countries.

THE A. I. ROOT CO., Medina, Ohio.
(U. S. A.)

☞ **GEORGE W. YORK & CO.** 144 & 146 Erie Street, CHICAGO ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor

CHICAGO, ILL., AUGUST 1, 1901.

FORTY-FIRST YEAR
No. 31.

WEEKLY

APIARY OF E. M. HAYES, SAUK CO., WIS.—(See next page.)

THE AMERICAN BEE JOURNAL

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GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

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The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

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Advertising Rates will be given upon application.

National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest boney-dealers.

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MEMBERSHIP DUES, $1.00 a year.

☞ If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Secor, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to boney and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

THE THOUSAND MEMBERS for the National Bee-Keepers' Association are coming. Since our last report we have received the membership dues from the following:

B. H. TRIPP. H. A. DOTY.

REV. M. MAHIN, of Henry Co., Ind., wrote us July 23, as follows:

"My bees have boomed this summer. When I get time I will tell you more about it. In a month I will complete the 60th year of my ministry, and I can easily preach four or five times a week."

Mr. Mahin deserves to be congratulated on his good health and ability to continue in his work. May richest blessings be his.

THE OFFICIAL EMBLEM of the Pan-American Exposition was designed by Raphael Beck, of Buffalo. It was accepted as the most artistic and suitable from several hundred designs submitted, and has the special merit of effectively symbolizing one of the chief

Official Emblem—Pan-American Exposition.

purposes of the Exposition, which is to bring in closer social and trade relationship the Republics, States and Territories of North and South America. The emblem shows a fair maiden typifying the North, extending a kindly hand to clasp that of her brunette sister of the South, thus forming a bond of continental sisterhood, and establishing a unity of sentiment and interest among the countries of the Western Hemisphere.

MR. E. M. HAYES, of Sauk Co., Wis., began to keep bees ten years ago, with one colony in a dry-goods box, somewhat larger than the hive he is now using, and the bees wintered well in it without protection. He now uses the 13-frame Langstroth hive, principally, and has adopted the tiering-up plan.

While he does not consider his an ideal location for bee-keeping, he never gets less than 60 pounds of honey per colony, and he has secured as high as 160 pounds per colony, and some increase. He sometimes gets light honey from clover and bergamot; there is no basswood in reach.

Mr. Hayes says that buckwheat is a much more valuable honey-plant than many give it credit for being. It comes late in the season, thus giving all colonies that were weak in the spring a chance to build up strong. While some think it fit only for manufacturing purposes, he has a good many customers who buy it year after year for table use. Some buy it because they prefer it to white honey, and some because they can get it a little cheaper.

The greater part of his dark honey he sells in barrels at 6 cents per pound, f. o. b. there. The last two years he has sold some of it at 7½ cents per pound.

The illustration on the first page shows a part of his apiary, the single-walled hives being in the cellar at the time the photograph was taken.

THE BUFFALO CONVENTION, as has been announced several times, is to be held Tuesday, Wednesday and Thursday, Sept. 10, 11 and 12, in the Lecture Room of the Buffalo Society of Natural Sciences, in the Buffalo Library Building, located at the corner of Washington and Clinton Streets, near the city business center.

Secretary Mason has sent us the following additional "good thing" on the program:

EDITOR YORK:—Since sending you the last notice of the Buffalo Convention, which appeared on page 435, I have invited Mr. H. W. Collingwood, editor of the Rural New Yorker (who is a staunch friend of bee-keepers and of our Association, as well as a pleasing speaker), to give an address at the joint session, on "The Pomologist and the Bee-Keeper." Of course, he'll be at the Pomological meeting, and I doubt not will be glad to talk for us.

Every indication is that we are to have a good meeting at Buffalo. A. B. MASON.

We are glad to see that the Buffalonian people can count on a good-sized crowd of bee-keepers. Of course, Supt. Hershiser will have good arrangements made to care for all, and at reasonable rates. If he doesn't he'd better get ready to go over the Falls of Niagara.

MR. JOHN M. RANKIN, of Lansing, the State inspector of apiaries for Michigan, writing us July 20, said:

"I am finding foul brood, good and plenty, in every locality I have been in thus far. Fully 75 percent of the apiaries I have visited have been more or less diseased."

Surely, Michigan needs a foul brood law and an energetic inspector. Now that she has both, her bee-keepers may expect to see the bee-disease "move on"—perhaps over the Canadian line, only to fall into the hands of that veteran bee-disease killer—Wm. McEvoy.

PROF. A. J. COOK and family have been taking an outing in the mountains of San Bernardino Co., Calif. In a letter dated July 19, he wrote:

"We are having a lovely time here in the mountains. I wish you and all the American Bee Journal friends were with us."

Oh, but wouldn't Prof. Cook have a crowd around him if "all the American Bee Journal friends" were to congregate there! Well, there would be several present—and it would be mighty hard to find Prof. Cook in such a crowd as that would be.

"THE END OF THE DEAL" is the title of an unusually good business serial story which is to begin in an early number of the Saturday Evening Post, of Philadelphia, Pa. A famous transaction on the Chicago Board of Trade is the basis upon which the author, Mr. Will Payne, has founded this striking romance of the wheat pit. A charming love story runs through the stern and stirring plot.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., AUGUST 1, 1901. No. 31.

Editorial.

Honey in Cans vs. Barrels.—Although we fear having our motive misjudged, we feel that we ought to say another word on this important subject. We certainly would refrain from referring to it now were it not for the fact that additional experience simply confirms us in the belief that extracted honey ought to be put into 60-pound tin cans rather than in wooden barrels.

We received two 400-pound barrels of very fine honey from Florida recently, and this after we had almost positively declared that we would not purchase any more honey in barrels. One of the barrels leaked, as usual! Both absorbed a number of pounds of the honey, also.

True, a tin can will occasionally burst, and thus cause leaking. But when it does, you can't lose more than 60 pounds out of one 60-pound can. But a barrel—well, we have more than once seen over a half-barrel of honey lost through leaking, or from the head bursting out.

Yes, tin cans do cost more than barrels, but they are worth more, and for several reasons. The honey in them can be re-liquefied without digging it out and putting it into something else, as must be done with honey in a barrel. Honey in 60-pound cans is in better shape for the cash honey-dealer to handle. It is a quantity that many a family feels it can afford to buy at one time. Other excellent reasons might be given.

It may do to put dark or cheap honeys into barrels, but the fine white extracted honeys we think ought always to be put into 60-pound tin cans. We believe the day will soon be here when such honeys will be required in tin cans, and perhaps at a slight advance in price over that of the same grade in barrels.

Another Victory for the National.—The National Bee-Keepers' Association has won another notable victory in the courts. General Manager Secor sends us the following condensed account:

EDITOR AMERICAN BEE JOURNAL.—

In December, 1900, the city of Rochester, N. Y., had under consideration the passage of an ordinance prohibiting the keeping of bees within the city limits. W. R. Taunton, a member of the National Association, living in the city, and whose business and liberties would be interfered with by such an ordinance, appealed to the general manager for advice and assistance. Such printed matter as it was thought would be of service to him was forwarded, and, with the assistance of able legal counsel, Mr. Taunton succeeded in having the proposed ordinance withdrawn.

But in April, 1901, the matter was revived, and through the persistent efforts of one of the aldermen, and in spite of all objections and remonstrances, the ordinance passed.

Mr. Taunton was advised not to remove his bees, and assured that if he got into trouble the Association would defend him.

Mr. Marks—a director of the National Association—was requested to go to Rochester and make a complete investigation. He did so, and reported that in his opinion Mr. Taunton was handling his bees in a manner not to annoy neighbors, and thought he ought to be protected.

In corresponding with our attorney, Mr. Dutcher, the latter stated that the police Judge, before whom the case was likely to come, was an able man, and thought the Association would better risk it there.

The case was tried upon a warrant of arrest for refusing to comply with the ordinance, and the Judge of the Police Court rendered his decision, setting aside the ordinance, and discharged the defendant.

The Judge did not file a written opinion. The counsel's brief is enclosed herewith.

EUGENE SECOR.
General Manager Nat'l B.-K. Association.

The above case was referred to editorially on page 323. Surely, another victory is won by the "Old Guard." But such victories can not be won without expense to the Association. And the only source of revenue is from membership dues. So every bee-keeper who cares for his own rights, or that the rights of others shall be protected, should be a member of the National Bee-Keepers' Association. You may not have to call on it to aid in defending you—and then you may. No one can tell at what time he may be unjustly prosecuted or threatened. Better "get in the dry" before it rains, and thus take no chances of being caught unprotected.

See the first column of the second page of every issue of the American Bee Journal for information concerning the Association.

Forcing Honey Into the Super.—The Australian Bee-Bulletin says:

Putting frames with eggs and unsealed larvæ at the outside of the cluster the bees don't want to store right in the middle of the brood-nest, so put all surplus in the super.

That will work all right some of the time, but when a heavy flow is on, bees will often allow solid combs of honey right in the middle of the brood-nest.

Bottling Honey.—J. R. Schmidt tells in Gleanings in Bee-Culture about the practice of C. H. W. Weber, the successor of C. F. Muth, who succeeded in building up a good trade in granulated honey. Instead of following that up, Mr. Weber goes to the other extreme, and sends out honey that *will not granulate*. That he succeeds in doing so "may be readily seen from the fact that some honey put up and sealed last summer had been kept on ice since bottling, and after passing through the present winter, is just as clear as it was the day it was put up, and not a case of granulated honey had to be replaced this winter."

The secret lies in putting up the honey in much the same way that fruits are put up—having everything hot at time of sealing. The apparatus used by Mr. Weber cost about $100, but it is probable that apparatus for putting up on a smaller scale might cost very much less. There is for heating the honey a tank within a tank, with a three-inch space between the two for water. When the granules are all melted out of the honey, and when for five or ten minutes the honey has been kept at 180 degrees, it is drawn off into the bottles, the cork is hammered in with a mallet of solid rubber, and then dipped into a melted preparation of rosin and beeswax, making it perfectly air-tight. If honey thus put up will keep indefinitely without granulating, it will much simplify matters for those who now go about taking up from grocers bottles of honey for re-liquefying.

An Artificial Swarm is thus directed to be made, in Bienenvater:

Take from the hive all the combs with adhering bees, except the comb on which the queen is found and a comb of honey. Fill up the hive with frames containing starters, and close the hive. The combs taken from the hive, with their adhering bees, are to be put in a new hive and placed on a new stand, having water furnished to them for four or five days. The field-bees will all join the old queen on the old stand, and the colony on the new stand will rear a new queen.

In this country it would be considered a gain to give the new colony a laying queen or a mature queen-cell.

Steam Wax-Presses vs. Hot Water.—Rambler lauds steam wax-presses in Gleanings in Bee-Culture, but thinks they may be excelled by those in which the material while in press is all the time kept under hot water. These are in use in Germany, where steam presses have been in use a number of years, and it is said that those who have tried both prefer the hot water.

A Cheap Bee-Stand certainly is the one recommended by Loyalstone in the Australian Bee-Keepers' Review. He says: "Nothing better, and cheaper, to my mind, than making mounds of earth, well battered down, rising about four inches above the lowest level of the ground." In some localities—perhaps rather in some soils—this may work all right.

Contributed Articles.

Moving Bees Into the Buckwheat Fields.

BY F. GREINER.

PERHAPS the reader may think that there isn't anything to be said on the subject of moving bees into buckwheat for "moving bees is moving bees," and what applies to moving to out-apiaries in the spring also applies to moving into buckwheat sections. I admit, in a measure, this is true, but when we take into consideration that our bees toward August 1 are in altogether different condition than we find them in the spring, it may not seem out of place to offer some suggestions in regard to how we may manage this matter.

If there has been a honey-flow previous to buckwheat time, our hives will be found quite heavy, and the handling of them is not mere boy's play ; they are also overflowing with bees, making it necessary to give more ventilation than is necessary in the spring moving. These different conditions must be met. My friend, E. H. Perry, of this (Ontario) County, N. Y., has been instrumental in bringing out a plan by which the moving of these heavy hives may be avoided, so that more colonies may be carried on one load, etc. In the following I will give the details of the plan, with some modifications :

Let us suppose the buckwheat honey-flow commences Aug. 5. We then commence to get ready about Aug. 1. It will be necessary to have as many empty hives on hand as we wish colonies to move. Said hives should be of the capacity of five or six Langstroth frames, and be filled with comb. We also need ventilating screens. These may be made by taking hive-bodies and sawing them into 2½-inch sections, nailing wire-screen over each. These ventilators answer a double purpose when fastened to the top of the hive. In the first place, they give plenty of air while moving ; secondly, they allow the smoke to escape and give ventilation while driving the bees out of their old home into a new one, which is our first step in the preparation for moving our bees into the buckwheat section, for we prefer to leave all these heavy brood-combs at home, and take only the naked bees. So, accordingly, we proceed.

The "driving" requires but little time, but some skill. The colony is raised up from its bottom-board and so placed as to give us easy access to the underside of the frames. The new hive with combs, the section-case and the ventilating screen, all fastened together, are placed on top, and by the judicious use of smoke from the bottom, and pounding on the brood-chamber, the bees are forced up into the empty hive, etc., in a very few minutes. When this is accomplished we lift off the new hive with fixtures and bees, and place it upon the same bottom-board and stand the colony previously occupied. We put on the cover and let it remain thus until we are ready to move three or four days later. We wish to let the bees become acquainted with, and adjust themselves, to the new state of things before moving them, or else some might swarm out as soon as opened up in the new location. Occasionally one of the colonies will swarm out the next day after "driving," and must be hived back with queen secured by an entrance-guard.

The old hive full of brood and honey is placed right back of the hive containing the bees, for a little while, perhaps an hour, not more, or till we have evidence by the behavior of the bees of the forced swarm that their queen is with them. When we feel sure a queen is left in the old hive, we are obliged to make a search for her, and when found place her where she belongs.

The hives with their brood-comb may now be placed around on other colonies, left at home, two or even three upon a single colony. Excluders are used to keep the queen from below to enter the brood-chambers above. We manage these sets of brood-combs for increase, as explained later on.

The question might be asked, Why not furnish these forced swarms only with foundation starters ? Indeed this might answer as well, or even better, as far as the securing of comb-honey is concerned. However, it is not safe to move newly-hived swarms long distances—the combs give the bees a chance to cling to during the journey ; and then we wish some honey stored in these small brood-chambers for wintering. We are quite sure to accomplish this end by furnishing the combs instead of starters.

When selecting the colonies to be moved we pick out such as have old queens. We may have to double up in order to get all colonies in proper shape for winter ; if all have old queens we avoid the possible sacrifice of young queens. When the season is getting near its end, this doubling-up may commence. It can better be done at this time than later when no more honey is coming in from the fields. Instead of this doubling-up we may re-unite them with the parent colonies, providing we do not wait too long before we take them back to the home yard.

It has not been fully explained just what was done with the sets of combs full of honey and brood, except that they had been placed upon other colonies over queen-excluding honey-boards. Our practice is to leave them alone for five or six days. Quite a good many young bees will then have hatched, and the larger part of the brood is sealed. We then take them off, bees and all, place each one on a bottom-board and move to a new location. If we have any queens on hand, we supply them with such ; if not, we have taken the precaution 10 days previously and started queen-cells from our breeding queens. These are then just ready, or ripe, and each new-formed colony receives one. In due time these will hatch, and the young queens will fill the hive with brood sufficiently to insure a good lot of bees to go into winter quarters. If they should not be as strong as desirable, then those colonies brought back from the buckwheat pasture may be united with them as mentioned. We kill the old queens, of course ; thus we have practically requeened all our colonies that were moved into the buckwheat.

I can recommend the above plan as one giving us better results in comb honey than any other, and an increase in bees, if we desire the increase. Ontario Co., N. Y.

Advertising High Values for Queen-Bees.

BY FREDERICK B. SIMPSON.

HAVING been much interested in the recent discussions regarding high values for queen-bees, I will venture to give some of my ideas on the subject, and if I am mistaken I trust some one will show me wherein the errors exist.

Naturally, most criticisms have been directed against the A. I. Root Co., and personally it is of course no one else's business how they advertise ; but from another viewpoint their extensive business interests place them in a position in which they are expected to represent all that is good, practical and progressive in apiculture, and their acts become a proper subject for public discussion, especially as by imitation these acts become much more far-reaching than would seem possible at a first glance.

Custom has made $5.00 the standard selling price for a "best breeder." The qualifications of such a queen vary greatly with the seller. For instance, I last spring purchased one from a man who gave me her pedigree for two generations, and the honey-yield of herself, her mother, and her grandmother, and also indicated where the strain originated. On the other hand, a New York breeder sold me one before fruit-bloom this season, and said she emerged last August (last year being the worst in 33 in this State), therefore greatly restricting the opportunity for determining her value as a worker-mother, let alone a queen-mother. I am merely pointing out the variation, as I have no fault to find, for I think the buyer of such queens will average fully as much satisfaction and return for his money as buyers of any other kind of well-bred live stock.

I have always thought bee-keeping quite a staid, conservative and dignified calling, far removed from those expensive avocations which are indulged in solely as recreations. I have felt that the bee-keeper usually applies the same amount of business ability to his avocation as he does to his regular calling, whereas the faddist, or he who is in search of recreation only, tries to get away from his business and commonly fails to make a financial success of his fad. The future of bee-keeping will depend largely on what is now being done, and if we are to continue to advance, perhaps slowly but steadily, it is well for all to look to it that they do nothing that will have a tendency to make bee-keeping or any branch of it a mere fad, or to allow our bee-papers to make any approach towards yellow journalism.

By their $200 valuation the Roots have obtained a great deal of free advertising, but as this has been largely by

adverse comment it is doubtful if it has paid well, and I hardly believe they knowingly used this valuation for the purpose of gaining such notoriety. In the American Bee Journal for June 20, Mr. Doolittle gave us some figures, but as he failed to notice that the mother of the drone with which a queen mates is entitled to probably the same share in the results as the queen's mother, and also that the mother or mothers of the drones with which the breeding queen's daughters mate, are also entitled to some share, his figures are of little value. Some years ago I tried to estimate the profit and loss in the case of horses, by the returns and expenses of their parents and produce, but I gave it up as a bad job, and I think the same fate will follow such estimates regarding bees. Possibly some one who is capable of compiling insurance statistics could help us out.

In regard to this matter, I believe the Roots are primarily merely guilty of bad advertising, but by their influence I believe they are establishing a faulty precedent. For instance, it is unlikely that the average bee-keeper who will buy queens of them, would refuse $5, or at the most $10, for his best queen, at the same time he is proud of his best queen, and he naturally doubts whether he can purchase her equal. He does not know her monetary value, but he does know her comparative real value, and if she has proved extra-good it is highly improbably that any one's "say so" will convince him that there exists a queen which is really worth from twenty to forty times what he would take for her, especially as there is no logical reasoning back of the advertiser's estimate. If an advertisement fails to convince it will fail to sell the goods, and in this case it will likely cause antagonism. All things considered, and realizing the high reputation and great experience of the advertisers, would not the mere straightforward statement that this queen has proven beyond a doubt to be "by far the best breeder that we have ever owned"—would not this, or some similar expression, coming from such a source, make a far stronger, higher and more acceptable and pleasing appeal, and might it not sell more goods?

It strikes me as quite an innovation for one to advertise anything that he finds it necessary to warn any portion of the public against purchasing, and the rhetorical figure including the pig and the wheelbarrow, is likely to cool the ardor of some enthusiastic amateur. Why the beginner with but few colonies should not get comparatively as much satisfaction out of such queens as the other bee-keepers, I can not see. Naturally, he will not have as much chance for comparison as the large honey-producer, which perhaps in three cases out of four may prove favorable to the queen; but he will not ordinarily put so much money in a queen without giving it careful previous consideration, and having purchased a queen at the highest price from a reliable firm, is it not likely that he stands quite a little more chance for satisfaction than the big man? To put it plainly, that warning looks to me like a real insult to beginners, many of whom will become our best amateurs; and who has more time for research than an amateur? Consider the proportionate amount of advice which has been made in photography due to the researches of amateurs as against professionals (although there are millions who are mere dabblers), and should not everything be done to encourage and stimulate the enthusiasm of amateurs in bee-culture? No, Mr. Root, you ought to balance that by saying something real nice in favor of amateur "enthusimussy," and if the beginner is "begigged" to buy one of your high-priced queens, please let him do so, for, just think of it, if he did not have the chance he might get to drinking and spend that money in whiskey!

But in Mr. Doolittle's article, above mentioned, does it not look as if he were hurling missiles from a very fragile point of vantage? To show the power of example, I will merely mention that I have recently noted four different advertisements in which the greatest inducement offered to secure purchasers is the Root Co.'s opinion of the monetary value of the queens' grandmother!! Another uses Doolittle's estimate in the same way in regard to the mother of the queens he sells, except that Mr. Doolittle was doubtful, and said, "If there is a breeder worth $100, this one is:" still another does likewise as to Mr. Doolittle's assumed monetary value of the grandmother!! And if my tastes ran that way, and if I were selling queens, I would quote what the same gentleman wrote me of a queen I bought of him—"This queen is worth fifty dollars to any one as a breeder."

Now, so long as people will attempt to place monetary values on queens, are they not just as much to blame as those who merely quote them? I far more highly prize the opinion of one man who sold me a queen, and said, "She is the best breeder we ever sent out." I know the man to be honest in his opinion, and therefore that he really believes I have the best queen that he ever sent out up to that time; whereas, if he had valued her say at fifty dollars, there would always be a doubt as to whether or not he had sold another that he valued at one hundred.

In view of the fact that it is really impossible to fix with any degree of accuracy a monetary value on a queen-bee, could not our veterans and leading lights who stand for all that is upright and honorable in apiculture, afford to set a good example and be sufficiently philanthropic to forego the pleasure of using such alluring figures, and, by failing to assume such values, in a measure to discourage the use of them for advertising purposes?

Queens are being advertised up to $25, and the scale of prices is based on an arbitrary standard the value of which is unknown—as I understand it they are not even guaranteed to be "best breeders." Now, I believe that a "best breeder" averages the value placed upon it up to $5; but it seems to me that if Mr. Doolittle's contention that only one queen in four is equal to her mother (and I see no good reason to doubt such a statement), and it is evident that where a queen is inferior it shows a lack of progression, and that the offspring are likely to keep on retrograding, it would seem that there is a great tendency towards a lottery in this scale of prices, and that satisfaction ought to be guaranteed on all queens sold for higher prices than best-breeder rates, so that by returning a queen the purchaser could get his money back, for, if Mr. Doolittle's experience is repeated, only one man in four will get thorough satisfaction.

As to the scale of prices, I have puzzled over it without any satisfactory results at all. Will not some one please tell me how you work it out? This is all I can get

A queen giving bees of .19 tongue length is worth...$10
" " " " .20 tongue length is worth (a $5 increase) 15
A queen giving bees of .21 tongue length is worth (an increase double the last or $10)..... 25
Therefore, a queen giving bees of .22 must be worth (increase double last, or $20)..... 45
and it follows that a queen giving bees of .23 tongue length is worth..... 85

That is to say, that the $200 queen is only worth $85, and her bees would have to have a tongue length between .24 and .25 to be worth $200.

Or, let us assume that she is really worth $200, and using the same scale of increase as we have above (between .22 and .23 it was $40), we get the following values:

.23 is worth $200; .22, $160; .21, $140; .20, $130; .19, $125,

From which naturally follows the query, How can they afford to let them go at the advertised prices?

Allegheny Co., N. Y.

[Since the above was written, Editor Root has announced that his firm will hereafter place no values on breeders which they propose to keep and will not sell; therefore a portion of the above becomes inapplicable, but as "there are others" it is deemed best to publish the article in full as written.—Editor.]

Brood in Sections—How to Avoid it.

BY G. M. DOOLITTLE.

WHAT is the cause of bees filling the sections with brood, and drone-brood at that? What is the remedy for it? I put on one surplus arrangement of sections some time ago, thinking that the bees were crowded for room, and perhaps would be forced to swarm when there was no bloom to sustain the swarm, and to-day I find the above results. Would you destroy the drone-comb, or shave off the heads of the drones in the cells? Please tell us through the columns of the American Bee Journal, as I think others would be benefited as well as myself.

ANSWER.—The querist seems the more surprised that the brood found in the sections was drone-brood, while if I should find any but drone-brood in the sections I should be surprised perhaps more than he, for I have yet to find worker-brood in sections, unless the colony was a new swarm and commenced their brood-nest "upstairs" when they began to build comb, as is sometimes the case where sections filled with foundation are placed on the hive when the swarm is first run in, with nothing but starters or empty frames below. Where swarms are hived on empty frames, the sections should not be put on till the bees get

well started at comb-building below—say in three or four days after the swarm is hived, unless a queen-excluder is used between the frames and the surplus arrangement. But where frames of comb or frames filled with comb foundation are used below, then the sections can be put on at the time of hiving the swarm, if desired.

But as to the cause of drone-comb and brood in the sections: If, as is usually the case with most of the bee-keepers of the present time, the questioner has restricted the drone-comb below, the natural consequence would be drone-brood in the sections, if the bees were allowed to build combs in the sections without the use of foundation, and especially so with a light flow of honey and plenty of pollen; for at such times the bees rear large quantities of brood, and prepare for swarming by starting as much drone-brood as possible, the same being limited only by the amount of drone-comb the queen has access to, and if she had little below there would be all the more incentive for her to occupy that being built in the sections.

Having spoken of the cause we will now proceed to the remedy. There are two ways to remedy this matter; and the one which I use most is the filling of the sections with very thin section foundation. This keeps all drone-comb out of the sections, and where there is no drone-comb there will be no drone-brood, providing we have a good, prolific queen; consequently this trouble with brood in the sections is remedied by thus using sections full of foundation having the worker-size of cells. Then, by thus using sections filled with worker foundation, we have very much nicer section honey as to appearance, after the sections are finished by the bees, for the capped combs having the worker size of cells are much more beautiful to look at than those of the drone size, as all who have compared the two side by side are willing to admit.

The other plan of keeping the queen from the sections is by the use of the queen-excluding honey-board between the sections and the brood-chamber. This will effectually prevent brood in the sections at any and all times, but such honey-boards are quite expensive, both in time of putting on and taking from the hive; room for storage when not on the hive, as well as in the money used in the purchase, or of the material from which to make; for they do not do away with the undesirable looks of the finished product, unless the sections are filled with foundation; besides, many claim that they should not be used in any event, on account of the believed lessened amount of our honey crop on account of the bees being loth to pass freely through the perforated metal. Regarding this latter claim I have my doubts as to its correctness, but consider all of the others as important.

Having given the remedy, what shall be done where we find brood in the sections before we knew of, or have applied, the remedy or preventive? This all depends upon what stage the brood is in when we find it. If it is found before any of the brood is sealed over, we have little waste except our time in taking the sections from and putting them back on the hive again, for it is well known, that, if this unsealed brood is taken from the bees and kept in a cold place for a week, the same is dead, and such dead brood will be removed by the bees as soon as they have access to it. My plan used to be, before I learned of the prevention as given above, to take sections, found with eggs and unsealed larvæ in them, to the cellar, and there leave them four or five days, when they were returned to the hives again, and if the queen did not deposit more eggs in them, they were filled with honey, and when finished were as good as if no brood had been in them.

If the brood in the sections has been sealed long enough so that the larvæ have begun to spin their cocoons, then the best thing to do is to cut the comb, or that portion having brood in it, from the sections, for honey stored in combs having cocoons in the cells is not just the thing for table use, nor to put on the market, unless this honey is separated from the combs by the use of the extractor, even though the same be sold as a second or third grade of comb honey, which it would have to be if sold at all, on account of the dark color the cocoons would give to the combs. It is never best, under any circumstances, to put upon the market that which will tend to injure the same, as is always the case by putting on honey of very inferior quality.

Onondaga Co., N. Y.

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last.

(Continued from page 453.)

No. 4.—Some Reminiscences of an Old Bee-Keeper.

BY THADDEUS SMITH.

HAVING Italianized my little Island apiary, I now found myself in a favorable position for rearing pure Italian queens for sale, without a possibility of having them mate with black drones, for, as far as I could ascertain, I had the only bees on the Island, and it was an occupation that I knew I would greatly enjoy, and there ought to be money in it at less than half the price that I paid for my queens. Then why not do as they were doing on Kelley's Island? I concluded that I would, and accordingly began preparation to become an Italian queen-bee breeder.

I spent the next winter in Kentucky at my old home, and in order to advertise my queen-rearing establishment a little, I talked bees, and wrote articles for the State agricultural paper on the "New Era in Bee-Keeping," "The Movable-Comb Hive," "The Introduction of the Italian Bee," etc., and I advertised queens reared (or to be reared) in my Island apiary, where there was no possibility of their getting mixed with black bees. I am afraid that the spirit of humbuggery that was so prevalent then among hive-patentees and queen-breeders was contagious, and that I had caught it in a mild form.

As I anticipated, I greatly enjoyed the work of queen-rearing, and as I was an enthusiast on the subject, I had fair success on the comparatively slow process then in vogue; and I had orders for them, too.

But my career as a queen-breeder was soon to meet with difficulties that finally brought it to an untimely end. My Island home was an admirable place for rearing queens, but I had not given full consideration to the facilities for shipping them, and I found that an Island without steamboat communication with the rest of the world was a poor place to ship queens from promptly. It so happened, last season, that we had no steamboat connection with the States I tried making a few shipments by sailboat to the nearest United States postoffice, but this was not satisfactory. And on this account, and other personal matters, I announced my inability to fill all orders, and returned what money I had received.

Though I did not make enough, above expenses, to pay for the two queens I had bought, I still felt well repaid for all my trouble and expense in the matter for the pleasure it gave me and the practical information gained in the natural history of the bee; I did not lose interest in the subject, and it afforded me a delightful recreation for every hour of leisure that I had, as well as honey enough for all to eat, and some to spare.

I increased my apiary until at one time I had between 50 and 60 colonies, but as I never again offered queens for sale, I have made no change in the stock in the last 30 years by introducing new Italian queens. I did, many years ago, buy a Holy Land or Syrian queen, but as I could see but little difference between them and the Italians, I did not try to keep them from mixing. I think I can now, sometimes, see in some colonies some indications of the Syrian cross, in the light-colored segments adjoining the yellow bands.

I sometimes had swarms to leave me, and they found no trouble in finding homes in the hollow trees of the heavy timbered portions of the Island, and in clearing up the land many colonies have been found, from some of which small apiaries have been started by a number of my neighbors, and they all show the three-ring test for Italians.

As I have heretofore noticed, the great contention between queen-breeders as to test of purity was the color of the queen and the markings of her progeny. These markings were found to vary even in the direct produce of the imported queens from Italy, and, in fact, were found to vary in that country. Breeders in America were therefore led to try to improve on the imported stock in regard to color, by careful selection in breeding; and they did succeed remarkably in getting brighter yellow queens than the imported ones, and, like Prof. Flanders, not only "went one better on the orthodox standard of *three* rings," but claimed also to have queens that would produce *five*-banded workers. Not only that, but that these beautifully colored bees were more gentle and less liable to sting, etc. The importers, who had only "leather-colored" queens, with their three-banded workers, now claimed that the "improvers" had gained in beauty and color, and perhaps in gentleness, at a sacrifice of industry and other qualities that made the darker stock the better honey-gatherers. Of course this is

denied by the other side, and the controversy is still kept up to this day.

In the earlier days of the introduction and dissemination of the Italians, great stress was laid upon the claim that these new foreigners were able to get honey from flowers that the black bee could not, especially from the bloom of red clover, which, in the immense fields of it in this country "was wasting its sweetness on the desert air," that would all be saved by the Italians. There is no reliable authority that a large crop of surplus honey from the June or first bloom of red clover was ever gathered, and it is now generally admitted that too much was claimed by our ardent queen-breeders along this line. The Italians have been known to work on the second bloom or seed crop of red clover, but generally the black bees, in the same vicinity, work on it at the same time, and the largest yield from this source that I know of on record, was gathered by black bees where there were no Italians at that time. The fact is that neither race works at all times upon this second crop of red clover, and, when the bees do work on it, very little is secured in the surplus boxes. The effort now being made by certain prominent Italian queen-breeders and importers to obtain by selection and breeding a strain of Italians with longer tongues than ordinary, so that they may be able to get honey from red clover, is tantamount to an admission that the present race or strain is not able to get it—not, at least, in any appreciable or paying quantities.

Another claim of superiority of the Italians was, that they were much more prolific than the blacks, and would increase more rapidly, and swarm more frequently. Now, there is a great desire to find some way to prevent this rapid multiplication of colonies, and that claim is no particular recommendation.

It has been found necessary to keep continually trying to improve the Italian bee, or to keep them up to the best standard of their kind: First, by constant new importation from Italy; then again, by careful selections of queens for breeders of large size and full development, and whose colonies have proven the most prolific, or the best honey-gatherers; and, third, by frequent crosses of different strains from the best breeders in different parts of the country, so as to have a constant infusion of new blood. All of these means are advocated and practiced at the present time by the best queen-breeders, in order to keep the Italian bee at its best, and prove its superiority to other races.

If all this is necessary to keep the Italian bee from retrograding and to show its superiority, it is not to be wondered at that the discarded and neglected black bee stands a very poor show when compared to its much-coddled rival. I think it safe to say that no attempt has been made in this country to improve the black bee, after the manner the Italians have been improved, viz.: by foreign importations and crosses, and by queen-breeders selecting from the hardiest and best honey-producing colonies. No, none of these things have been done for the black bee, and there are some who believe that, even in their neglected condition they will store more comb honey than the Italians, when both are given the same attention and management; and that they possess some valuable traits of superiority over the Italian. I will not say that in several respects the Italian is not superior to the black, but I will say that the black has never been coddled, and given an equal chance in all respects to do her best, as has her more fortunate sister.

(To be continued.)

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

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Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Uniting Colonies in the Fall.

I have more colonies of bees than I care to winter, and there is no very ready sale for them here. What is the best way to dispose of the bees and secure the honey? When is the proper time in the season for doing it?

NEW BRUNSWICK.

ANSWER.—Perhaps as good a way as any is to unite colonies. Consider to some extent the position of colonies in uniting, other things being equal uniting two colonies standing close together. A day or two before uniting kill the poorer queen of the two, and unite on the stand of the living queen. As the season is now fairly along, the uniting may be done at once, unless you are likely to have a good fall crop, in which case unite about the beginning of the fall flow.

Bees that Fought and Killed Each Other.

Yesterday (July 7) one of my colonies cast a swarm. I was at church at the time (it being Sunday), and one of the boys hived it, and left the hive where they clustered. When I came home, an hour or so later, I put the hive on the stand where I wanted it to stay. A little while afterwards I noticed quite a few bees flying where the swarm had clustered. I took an empty hive and comb and set it where the bees were flying, and in a short time I had them all on that comb—a quart or so of bees. I shook them off in front of the entrance of the swarm, and all went in nicely. Shortly after this they commenced killing each other until there were about a quart of dead bees in front of the hive. I gave them a good smoking, and they seemed to quiet down. At this writing all seems to be peaceable. What caused this fighting and killing each other? S. DAKOTA.

ANSWER.—I don't know. It is possible that the quart or so of bees were a small second swarm, and having a virgin queen were not kindly received. Of course, all would be peaceable under that presumption after all the bees of the second swarm were killed.

Diseased Bees.

1. I put about 20 colonies of bees into winter quarters last fall, and all but one were apparently in a healthy condition, and about half of these died during the winter and spring. A large percent of the bees died in this section, some losing every bee.

My bees did not seem to build up in the spring, and about the first of June every colony had more or less dead brood. I supposed at first that the brood had died from lack of nurse-bees, as the bees that were in the hives were very old, for the reason that the fall frosts were about two weeks early, and no flow from goldenrod, so brood-rearing had stopped at least three weeks earlier than usual.

At first, scattering dead larvæ would be seen among the brood, which were a sort of yellowish white, and very soft, but from the worst colonies no offensive odor was present, and no ropy appearance when a toothpick was withdrawn from a dead larva, as described in foul brood. Some of the colonies are so bad that there is hardly a hatching bee, when all the frames are filled with brood and eggs.

About the first of May I bought five colonies of black bees for the purpose of rearing some of my best queens from colonies having only a handful of bees, and to these I introduced the queens, uniting the few bees with a frame or two they were on.

From one to a dozen of these dead larvæ were in the frames thus introduced. At that time I did not think this was any disease, but supposed the brood had died from starvation, as there were long-continued spells of cold, rainy weather in April and May. To-day, I find, in looking

through these hives, that dead larvæ are scattered through other frames, and one colony is bad enough to interfere with the increase of the colony. From one of my old colonies that was so bad that scarcely a bee was hatching, while all the frames were filled with brood and eggs, I removed the frames, giving empty combs, and in two days introduced a new queen, and now (about three weeeks) there are no signs of disease.

How would you treat the strong colonies? Some are very strong, covering 20 Langstroth frames, and have two 28-pound supers nearly full. I have plenty of empty combs, as I run for both comb and extracted honey.

What can I do with the frames of brood and honey taken from the diseased colonies? They are all wired and built on foundation, except the five new ones, and only three of these are affected.

What do you think this disease is, that would make its appearance in every colony at once.

Do you think the weather started it, and then it became contagious? I have never known foul brood in this locality.

I have not been able to get any odor from the worst cases. When first noticed, the larvæ is about one-third grown, some looking a soft, greasy white, and some a yellowish white, and later turns brown, drying up in the cell—some curled up and some lying lengthwise.

2. Do you think these combs can be used another year by placing them under water in a current?

MASSACHUSETTS.

ANSWERS.—I'm afraid there is disease among your bees, which, although now apparently overcome while the honey-flow is on, will reappear in the future. In the meantime it will be advisable for you to get all the literature you can on the subject, especially the leaflet on pickled brood, and back numbers of this journal relating to diseases of bees, and being thus informed upon the subject you can form a better judgment of the case than can one at a distance.

2. Placing diseased combs under running water would not be likely to do any good.

Storing in the Brood-Nest—Swarming Out.

1. In the months of November and December here the queen greatly diminished her egg-laying, and the bees filled up nearly every comb with honey. If extracted, the bees store in honey all the same, and very little brood would be kept up. This greatly reduces the force of the colony. What must I do to prevent the bees storing honey in the brood-nest in such season of the year?

2. When my colonies swarm I destroy all queen-cells and turn back the swarm (with the exception of the queen, which I give to some queenless colony). A few days after I destroy the remaining cells, such colonies now being left without queen or cells. About two weeks after I give them a cell each; every one of the colonies swarmed out with the virgin queen. What must I do to prevent such swarming?

JAMAICA.

ANSWERS.—1. It is not easy to prevent the bees from filling the combs with honey in some cases. Having young queens will help. If you give empty frames or foundation it will give the queen a better chance to get in her work.

2. Instead of desroying all cells and then giving another cell two weeks later, if you leave one cell—or if you want to give a cell from choice stock give it at the same time you kill the cells—you will not be likely to have so much trouble with the bees swarming out. With your present plan there is no brood, or at the most a very little sealed brood, in the hive, and when the queen goes out on her wedding-trip the bees go along.

Bait-Sections—Extracting, Etc.

1. I have the Ideal super and sections; some have been on my five hives over two months, but the bees have not yet worked in them at all. The frames are irregularly filled, average two-thirds; 8-frame hives. The books say bait with old or used section-boxes, but I am a beginner, and have only the one kind—new. I can borrow 4¼x1⅞, but they are no fit, if that makes any difference to bees.

2. How can I extract honey from comb without an extractor? It could not always have been done with those machines. I scrape out the honey and comb together with a tablespoon, on each side of the foundation, cut it into a dish or pan, and separate it as we eat it. I want to put it into jars.

3. By the way, the foundation goes to pieces in scraping, though I use great care; some breaks in carrying to the house, about 20 steps. I use what is called in catalogs "medium brood foundation." I am told it ought to remain good in the frame at least eight years. CALIFORNIA.

ANSWERS.—1. So long as the brood-frames do not average being more than two-thirds filled, you hardly ought to expect bees to do much in sections. Indeed, without any bait in supers you ought not to expect them to make any start at all until the brood-chamber is filled, and even with bait they will confine their attention in the super to the bait alone until they have more honey than they can get into the brood-chamber. You need not be thwarted in the matter of bait becasue you have no partly filled sections of the right size on hand. If you can get sections of another size, cut out the comb and fasten it into one of your sections. You may even cut a piece of comb with brood in it out of a brood-frame and fasten it in a section for bait. It will not make a desirable section when completed, but nothing can be more seductive to the bees in the way of bait.

2. I don't know of any way by which you can get honey out of a comb without an extractor that will leave the comb intact, unless it be to let the bees empty it.

3. If I understand you rightly, when you are scraping the honey away from the septum the latter gives way. Foundation may become dry and brittle through age, but after such foundation is put in use by the bees I doubt its being specially different from other. It is probably not so much brittleness as tenderness of which you complain, and the freshest foundation would have the same fault, the natural comb being still worse.

Honey-Plant Questions.

1. Is yellow sweet clover better than white for bees?

2. Is crimson clover good for bees? Does it bloom the first year?

3. When is the best time to sow either?

4. Does cleome bloom the first year? If so, about what time of the year does it bloom? SUBSCRIBER.

ANSWER.—1. I don't know. Although I have sowed some this year it can not blossom before next year, and there is such a terrible drouth that none of it may be alive. It would be of interest if the readers of this journal, who have had both white and yellow sweet clover, would give us some idea of their relative merits.

2. It is a fine honey-plant. It is usually sown late in summer, blooming the next season before white or red clover. If sown early in spring, some of it may blossom the same season.

3. Sow sweet clover about the time of sowing oats in spring; crimson clover in August. Sweet clover may also be sown in the early fall.

4. Cleome Integrifolia, or Rocky Mountain bee-plant, if I am not mistaken, blooms the first year toward the latter part of summer.

Cleaning a Mice-Infested Hive.

Can a hive be cleaned that has been infested with mice? If so, how? WISCONSIN.

ANSWER.—If you mean the combs, the bees will clean them up. If the hive without combs, use soapsuds.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

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The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

THE BABY.

What is the little one thinking about?
Very wonderful things, no doubt.
Yet he laughs and cries, and eats and drinks,
And chuckles and crows, and nods and winks
As if his head were so full of kinks
And curious riddles as any sphinx!
Warped by colic and wet by tears,
Punctured by pins, and tortured by fears,
Our little nephew will lose two years;
And he'll never know
Where the summers go.
He needn't laugh for he'll find it so!

This is from the genial pen of that wholesome writer, Dr. J. G. Holland. I would have his books grace the table of all our home circles. "Boy Path" and his other stories are always inspiring, and inspire our young people to pure thought and purpose. The poem from which the above is taken is so full of humor, of unflagging interest, of real philosophy, that all our children and young people may well read—the children portions of it, and the older ones all of it. Like Job, it discusses the problem of evil, and will help to get a philosophy of life and thought that can not come too early into the heart and life.

I hope all our mothers will see that "Bitter Sweet" is among the volumes that the children prize as among their best belongings. Then side by side have "Kathrina" and "Timothy Titcomb's Letters to Young People"—all by the same author. All are good to read with the children; all will develop in pure wholesome lines; all will invigorate, and give a start-off from a right, true foundation.

But we have almost forgotten the baby. Luther said he loved and felt awed before the baby. For in every baby is the promise of so much of good or evil. Every infant is potentially so pure, true and noble, or so base, depraved, and ignoble, that no wonder we are alert at the very cradle to start the little craft in best courses, that baby, mind and soul, may all trend towards the fairest port. The poem further traces the little craft—

Out from the shore of the great unknown,
Blind and wailing, and alone,
Into the light of day,
Out from the shore of the unknown sea,
Tossing in pitiful agony,
Of the unknown sea that reels and rolls,
Specked with the barks of little souls—
Barks that were launched on the other side,
And slipped from heaven on an ebbing tide.

And how beautiful this reference to the mother:

What does he think when her quick embrace
Presses his hand and buries his face,
Deep where the heart-throbs sink and swell,
With a tenderness she can never tell,
Though she murmurs the words
Of all the birds—
Words she has learned to murmur well.

We have seen that influences towards truth-telling, self-control, unselfishness—the blessed trio of human virtues—must push for a hearing at the very cradle. The sad experience of the last few days of heated summer weather, in thousands of our American homes—experiences which force their unwelcome presence—to darken the lives and hearts of bereaved parents over and over with the years, shows that the slender, delicate little bodies, even more than the mind and soul, need a first thought in these early, fragile months. So many of the little souls that fleck the sea of infancy flounder and are lost to all influence and usefulness in the world.

The baby is full of most sensitive nerves. Every one of these seems to reach to the surface, each seems tied to the other. If one is pinched, all cringe. So ready and active is this sympathy, that a toothprick or a lunch which the digested machinery fails to reach, brings the spasm, or the fatal bowel complaint. Almost before we know it the little craft sinks beneath the waters, and we are left hopeless to mourn our terrible loss.

The very functional sympathy just referred to makes infancy the critical stage of life, and explains the mortality which is so startling at this period. Paul's words are now emphatically and peculiarly true. If one member suffers, all the members suffer with it. A fall from a chair, which one older would scarce notice, brings the spasm, and, mayhaps, death; the cutting tooth, which with years would scarce prove a pinprick, now blocks the stomach and brings the fatal bowel complaint. A change of food that later would come with relish, now smothers digestion and blows out the life-light. The excitement of too many attentions from admiring friends, which with more of age would be all invigorating and life-giving, now wearies till the energies flag, and the bodily functions, tired out, cease their action.

We must ever remember that infancy is the critical age; that the very sympathy between the organs is a menace to life itself. Teething, which comes at its worst phase at about the first year-mark, is ever to be dreaded. The heat of summer is full of menace. Change of place and companions at this susceptible age is too stimulating, and fraught with danger. Change of food is often the very last straw, and the back severs. Combine all these, and what wonder that the fragile little craft goes to the bottom?

It may be wise to leave home in summer. This is vacation time. But if a baby adorns our home and gladdens our arms, we better think twice, especially if at about the year, date when the great molar is trying to push through. Then if we must go, we must seek a cooler place, a quiet nook, and plan that there be no change in the food. Often the plunge is from country to city, to the dear old home friends, who rightly appreciate the little waif as a very treasure, and thus keep it waked and going till excitement and exhaustion have done their work. Usually the food is changed perforce, and with the heat, excitement, change, enforced by the offending molar, the foe is too numerous and strong, and the struggle very brief. The wise, thoughtful parents will see that the little jewel which gives charm to the home and life is too rare and precious to permit even vacation pleasure and change to bring threatening dangers. They will forego even the visit to the old home for baby's sake. They will plan with all the astuteness of love to minimize the dangers that menace infancy, and will gladly forego the change or visit—even the rare, gracious pleasure of re-living the gladsome life of the old home, for the sake of the life and health of the blessed baby.

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To Our Shippers:

We were obliged to notify you a few weeks ago that one Joseph M. McCaul had leased our old quarters at Nos. 120–122 West Broadway, New York City, and had there started up business under the name "HILDRETH, McCaul Co.," and had distributed a multitude of circulars so worded as to create the impression that his business was a successor to or a branch of the business of Hildreth & Segelken.

For the protection of our shippers and ourselves, we at once instructed our attorney to commence action to enjoin the said McCaul from using the name HILDRETH in any manner whatsoever in connection with his business. On the 10th day of July, 1901, Hon. David McAdam, Justice of the Supreme Court of the State of New York, after a full argument upon the merits, issued a peremptory injunction, of which the following is an extract:

"And it appearing that the plaintiffs have for a long time been and now are carrying on business under the style of 'Hildreth & Segelken,' and that the defendant has recently opened a business at 120–122 West Broadway, in the Borough of Manhattan, City of New York, and is carrying on the same under the style of 'Hildreth, McCaul Co.,' and that such act is in violation of the plaintiffs' rights, and that the commission or continuance thereof, during the pendency of this action will produce irreparable injury to the plaintiffs; it is

ORDERED that the defendant (Joseph M. McCaul) and each of his agents, servants and employees and all other persons acting under his authority and direction be, and he and they are hereby restrained and enjoined from showing, displaying or otherwise using during the pendency of this action in or upon any papers, devices, sign or signs, or otherwise, in the business conducted by the the defendant at No. 120–122 West Broadway, in the Borough of Manhattan, City of New York, or elsewhere the name of "Hildreth" separately or conjunctively with any other name, designation or description."

Outside of our desire in our own interests to protect the name which we have built by years of satisfactory dealings with our customers, we hastened to procure this injunction as soon as possible, to prevent our shippers from being misled into sending their goods to one who would make an attempt to gain their trade by such a trick and device.

With thanks for the many expressions of good-will we have received from our shippers concerning this attempt to trade under our name, we are, Sincerely yours,

HILDRETH & SEGELKEN,

265-267 Greenwich Street, NEW YORK, N. Y.

DO YOU WANT A HIGH GRADE OF

Italian Bees and Queens?

2-frame Nucleus with Untested Queen, $2.00, purchaser paying express charges.

Naperville, Ill., May 28, 1901.

DEAR SIR:—Bees arrived in good condition. Transferred them to hive and gave them honey. Have reinforced them with hatching brood. Are working when not too cold. Have right color, and are satisfactory. D. B. GIVLER.

I like your way of packing bees to express. E. K. MEREDITH, Batavia, Ill.

Months	July and August.		
Number of Queens	1	6	12
GOLDEN QUEENS.			
Untested	$ .75	$ 4 00	$ 7.00
Tested	1.25	6 50	10.00
Select Tested	2.00	9.00	16 00
Breeders	5.00		
HONEY QUEENS.			
Untested	$ .75	$4.00	$ 7.00
Tested	1.25	6 50	10.00
Select Tested	1.50	7.00	12.00

Safe arrival guaranteed. Descriptive price-list free. D. J. BLOCHER, Pearl City, Ill.

28Atf Please mention the Bee Journal.

Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application. BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

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PAGE

IT'S NO TROUBLE

for us to tell why PAGE Fences outlast others, nor why they stay up and don't sag. Ask us.

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

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QUEENS

Now ready to supply by returned mail. STOCK which can not be EXCELLED !!! Bred under the SUPERSEDING CONDITION of the colony.

GOLDEN ITALIANS, the GREAT HONEY-GATHERERS. They have no SUPERIOR and few equal. 75c each; 6 for $4.00.

RED CLOVER QUEENS, the LONG-TONGUED ITALIANS, which left all RECORDS behind in GATHERING HONEY, $1 each; 6 for $5. SAFE ARRIVAL GUARANTEED.

C. H. W. WEBER, Successor to CHAS. F. MUTH, 2146 & 2148 Central Ave., CINCINNATI, O.

Headquarters for Bee-Supplies. | Root's Goods at Root's Prices.

Catalog free; send for same.

BEES WAX We will pay 26c. cash, per lb. for pure, bright yellow beeswax, and 20c. cash, per lb. for pure, dark beeswax delivered here. CHAMBERLAIN MEDICINE CO., Des Moines, Iowa.

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FOR SALE

240 acres, well fruited to cherries, peaches, plums, pears, apples, currants, raspberries, blackberries, and strawberries. Good house, barn, vegetable green-house, honey-house, 50 or 100 colonies of bees, situated in good bee-locality. Title clear. For particulars address,

31D3t A. L. KILDOW, Sheffield, Ill.

Please mention Bee Journal when writing advertisers.

Breed from the Best.

A Stray Straw in Gleanings in Bee-Culture says:

Scientific queen-rearing requires careful selection of sire and dam, adapting one to the other. Little can be done at that till fecundation can be controlled. In the meantime, if every bee-keeper persistently breeds from queens whose colonies store biggest crops, I'm sure he will bring up his average.—[Yes, that is true. J. F. McIntyre, of California, has a row of hives in his apiary, each of which has a queen from his best breeder. He says it was easy to see that this row of hives gives a larger yield than any other row of an equal number or strength.—EDITOR.]

Bees as Fertilizers.

Some testimony has been given to show that bees may be dispensed with as fertilizers of fruit-bloom. J. W. Rouse gives in the Progressive Bee-Keeper some testimony on the other side, as follows:

We made some experiments during fruit-bloom with our bees by covering the limbs that would bloom of peach, pear, plum and damson trees, and had intended also to experiment on apple-bloom; but I was away from home when they began blooming, so I did not get to work on them. Contrary to expectation, on peach-bloom there were some peaches that set, but not quite so many per bloom as on limbs with bloom uncovered. We also noticed more dwarfed fruit on the covered limbs than on those not covered, that of course will not mature. We used a mosquito-netting. On the pear, plum and damson limbs covered, there was not a single fruit set, so we conclude that bees help the peach some, anyway, and that they, or some other insect, are necessary for pears and plums.

Brood in Sections.

Some producers of comb honey find no need for queen-excluders, while others find excluders necessary. Referring to this, a Stray Straw in Gleanings in Bee-Culture says:

Complaint is made by some that, when no queen-excluder is used the queen goes up and lays in the sections. The curious part is, that A says he has no trouble at all, while B has brood in a fourth of his sections. Possibly this explains it: There is no drone-comb in the brood-chamber in either case, B's bees have only starters in the sections, and they will build drone-comb there, and the queen will come up to lay where the drone-comb is. A's sections are filled with worker foundation, and there will be no drone-comb there to bait the queen up.—[In California, so far as I have gone, perforated zinc seems to be generally used, even for comb honey.—EDITOR.]

Prevention of Swarming.

H. D. Burrell uses the Heddon hive, and gives in the Bee-Keepers' Review this method of preventing swarming, which, with some modifications, he thinks would work with other hives. He says:

Eight frames are fastened in a case, and any desired number of cases may be used for a brood-chamber. I usually use two, which gives a horizontal bee-space entirely through the middle of the brood-chamber. This bee-space is a fine place to build queen-cells in, and if the bees are preparing to swarm, queen-

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.

UNTESTED

Italian Queens Free

BY RETURN MAIL.

For sending us **One New Subscriber** for one year, to the American Bee Journal, with $1.00, we will send, **by return mail**, a fine Untested Italian Queen free. This offer is made **only to our present regular subscribers.**

We will mail one of the above queens alone for 75 cents; or 3 for $2.10.

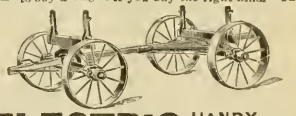
Please do not conflict the above offer with the one on another page which refers to Red Clover Queens. For sending us **one** new subscriber at $1.00, and 25 cts., we will mail you free an Untested Red Clover Italian Queen.

GEORGE W. YORK & CO.

144 & 146 Erie St., - CHICAGO, ILL.

ONCE IN A LIFE TIME

is often enough to do some things. It's often enough to buy a wagon if you buy the right kind. The



ELECTRIC HANDY WAGON

lasts that long under ordinary conditions. First the life of a wagon depends upon the wheels. This one is equipped with our **Electric Steel Wheels**, with straight or stagger spokes and wide tires. Wheels any height from 24 to 60 in. It lasts because tires can't get loose, no re-setting, hubs can't crack or spokes become loose, felloes can't rot, swell or dry out. Angle steel bounds.

THOUSANDS NOW IN DAILY USE.

Don't buy a wagon until you get our free book, "Farm Savings." ELECTRIC WHEEL CO., Box 16, Quincy, Ills.

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ROOT'S GOODS AT ROOT'S PRICES

Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.

WALTER S. POUDER.

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QUEENS

QUIRIN—THE QUEEN-BREEDER—has now on hand, ready to mail, **500** young, long-tongued Red Clover Queens, Golden or Leather Colored.

We have one of Root's best breeders from his $200, long-tongued, Red Clover Queen, and a Golden Breeder which we are told is worth $100, if there is a queen in the U. S. worth that sum.

J. L. Gandy, of Humboldt, Nebr., tells us that the colony having one of our queens, stored over 400 pounds (mostly comb) honey in a single season. A. I. Root's folks say that our queens are extra fine, while the editor of the American Bee Journal tells us that he has good reports from our stock from time to time.

We have years of experience in mailing and rearing Queens. Queens positively by return mail from now on. Prices for balance of season as follows:

	1	6	12
Selected	$ .75	$ 4.00	$ 7.00
Tested	1.00	5.00	9.00
Selected tested	1.50	8.00	

Extra selected tested, the best that money can buy, 3.00

H. G. QUIRIN,
Parkertown, Ohio.

(Parkertown is a Money-Order Office.)
By contract this ad. will appear twice per month only. 14E13t

27D6t Please mention the Bee Journal.

Davenport, Iowa

Is the nearest to you. Send us your orders for **Bee-Keepers' Supplies.** We have everything. G. B. Lewis Co's Hives, Sections, etc. Dadant's Foundation at manufacturers' prices. Send for catalog.
LOUIS HANSSEN'S SONS, Davenport, Iowa

28A5t Mention the American Bee Journal.

Red Clover Queens!

bred from a daughter of the A. I. Root Co. long-tongue $200.00 Queen, and mated in my apiary where there is nothing but the best Italian stock.

I have drones flying in my apiary from seven **different States.** Untested, 50c each, $5.50 per dozen. Safe arrival.

W. J. FOREHAND,
29D6t FORT DEPOSIT, ALA.

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COMPLETE POULTRY BOOK FREE.
Contains 208 pages, profusely illustrated, plans for houses, incubators, brooders, coops, etc. Given free if you send this advertisement and 25 cents for a year's subscription to our Journal. INLAND POULTRY JOURNAL, Indianapolis, Ind.

29D1f Please mention the Bee Journal.

QUEENS!

Having caught up with my many orders at last, I am now prepared to send **LONG-TONGUED RED CLOVER QUEENS** by return mail. My bees cannot be excelled for beauty and for honey-gathering qualities.

This is a Post-Office Money Order Office. Remit 65 cents and get one of the nicest and best Queens you ever owned, from the Queen Specialist—
DANIEL WURTH,
29D2t COAL CREEK, Anderson Co., TENN.

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If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.25 to

Prof. A. J. Cook, Claremont, Cal.,
FOR HIS
"Bee-Keeper's Guide."
Liberal Discounts to the Trade.

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cells will surely be found here. In fact, if the frames are well filled with combs, as they usually are in this hive, queen-cells are rarely found in other parts of the hive.

When the season and weather conditions are favorable for swarming, we look in this bee-space. If there are queen-cells that show eggs only, we mash them down and close the hive. That colony is safe for another week. If there are queen-cells containing larvæ, we proceed to divide the colony at once. A few vigorous puffs of smoke into the top of the brood-chamber will usually drive the queen into the lower part of the hive. We place this part of the hive at one side, with its entrance facing at right angles to the old stand. On the old stand place the balance of the brood-chamber on another hive-bottom, putting a case of empty combs, foundation, or starters under each part of the divided colony. Divide the surplus cases between the two hives, and give more surplus room if it seems necessary. Treat each colony in the yard that is likely to swarm in the same way.

If convenient to look at the hives just before dark, it is easy to tell where the queens are. The queenless bees will be uneasy, and crawling about the front of the hive, apparently hunting for their queen. If it should appear that she is in the part of a colony left on the old stand, exchange places with the removed part. By morning the queenlessness will not be so apparent. It is better to have the queen removed from the former stand, as most of the field-bees will return to the old home, although this is not really essential. The weakening of the colonies, and the additional room given, will almost always cure them of the swarming-fever.

At the next examination, a week later, it will be easy to determine in which part of the divided colony the queen is, by the eggs in the brood-combs. Place all the surplus cases, and the hive that has the queen, on the old stand, and put the queenless brood and a few bees in a hive at one side. This small colony may be used for strengthening a weak colony, as a nucleus for queen-rearing, for increase of colonies, or as a surplus case on any hive in the yard.

Bait-Sections.

I was glad to see Mr. Doolittle standing up so staunchly for these. Several eminent bee-keepers some time ago contended that they were fit only for being smashed up and made into wax. I would have every single unfinished section carefully preserved, and one or two placed in the center of every super. But I would have them all nicely cleaned up by the bees before storing them away, as I fear any granulated honey they might contain would be a source of "infection," and granulate the new crop stored in them. This seems to be a moot point, however. I "blue-pencil" all these sections, and seldom find that they show any defect of construction or finish.—British Bee Journal.

Prolong Lives of Best Queens.

Says a Stray Straw in Gleanings in Bee-Culture:

Longevity in bees is coming to the front. Assuming that in harvest time a worker lives six weeks, and goes afield when 16 days old, if its life were prolonged a week it could store 27 percent more. If one queen lives twice as long as another, will not her workers live at least a little longer? Is it not possible that, by proper selection continuously exercised, we might add that week to the life of the worker? If we could add a sixth to its summer life, that ought to add a sixth to its winter life. In that case, a bee born Oct. 1, which now lives till April 1, would live till May 1—quite a help in the wintering problem. Another thing: We can tell better what a queen is by two or three seasons' work than we can by a single season's work. The one that shows herself best for three seasons is a safe one to breed from. I have queens born in 1897 that are among the best—one of them, I think, the very best I have.—[While this is true, the average queen, I think, would better be displaced in two years by a young one.—EDITOR.]

THE MODERN FARMER & BUSY BEE.

EMERSON TAYLOR ABBOTT, Editor.

A live, up-to-date Farm Journal with a General Farm Department, Dairy, Horticulture, Livestock, Poultry, Bees, Veterinary, Home and General News. Edited by one who has had practical experience in every department of farm work. To introduce the paper to new readers, it will be sent for a short time to New Subscribers, one year for 25 cents. Sample copies free. Best Advertising Medium in the Central West. Address,

MODERN FARMER,
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The American Poultry Journal

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A Journal that is over a quarter of a century old and is still growing must possess intrinsic merit of its own, and its field must be a valuable one. Such is the

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50 cents a Year. Mention the Bee Journal.

The Rural Californian

Tells all about Bees in California. The yields and Price of Honey; the Pasturage and Nectar-Producing Plants; the Bee-Ranches and how they are conducted. In fact the entire field is fully covered by an expert bee-man. Besides this the paper also tells you all about California Agriculture and Horticulture. $1.00 per year; 6 months, 50 cents. Sample copies, 10 cents.

THE RURAL CALIFORNIAN,
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BARNES' FOOT POWER MACHINERY

Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 7,000 chaff hives with 7-in. cap, 100 honey racks, 500 brood-frames, 2,000 honey boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

Address, W. F. & JOHN BARNES,
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BEE HIVES, SECTIONS AND ALL BEE-KEEPERS' SUPPLIES.

Big Catalog Free. Write now. **Leahy Mfg. Co.,** 2415 Alta Sita, E. St. Louis, Ill.

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Send for circulars regarding the oldest and most improved and original Bingham Bee-Smoker. FOR 23 YEARS THE BEST ON EARTH.

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Queen-Clipping Device Free....

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & COMPANY,
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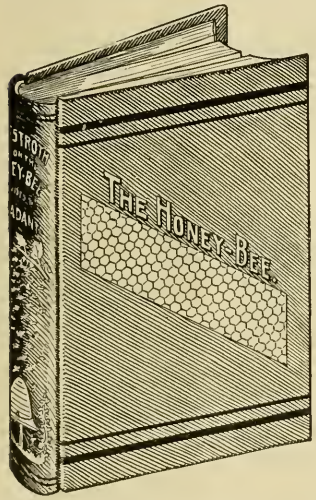
Langstroth on... The Honey-Bee

Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the Ameri-



can Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us **THREE NEW** subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

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California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,
The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.
PACIFIC RURAL PRESS,
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QUEENS! QUEENS!
From honey-gathering stock. Tested, $1.00; untested, 75 cents. "Shady Nook Apiary."
JAMES WARREN SHERMAN,
29A13t Sag Harbor, New York.

General Items

Mulberries and Bees.

It may not have occurred to some of your readers what a remarkable honey-plant they may have, right at their doors, irrespective of locality.

In the coldest habitable region the white or Russian mulberry may be depended to thrive. In the heat of the South it flourishes and supplies abundant shade. In the more temperate climate of the East it spreads its long limbs, like an eagle poised in flight. In the barren sands of the extreme West its glossy foliage revives hope as does the date-plant in the Sahara Desert, yielding abundant fruit after the fifth year.

It is so easy of cultivation that no one need fear failure. It is easily propagated from seed, and cuttings take root in moist soil as readily as willows, attaining a height of from 60 to 100 feet, and girth of trunk from one to two feet in diameter. Planted a foot or two apart it affords an attractive hedge-fence, as effective as the osage orange.

The availability of the mulberry for shade, post-timber, and fire-wood, must appeal to all sensible farmers. Though a comparatively soft wood, it is of tough fiber, successfully resisting the force of the winds when less yielding trees break off. Its far-reaching roots are great foragers for this tree's sustenance and anchorage. The fruit is a creamy-white, and so sweet (87 percent saccharine) that one must acquire a taste for its enjoyment. Not least of its virtues is the ease of its harvest. Simply spread a sheet under the tree and shake well to bring its luscious fruit. No sugar is required for their preparation for the table. Milk or cream greatly improve their delicacy. Made into jam, no fruit is healthier, more cheaply prepared, nutritious, or more relished by young or old who are fond of natural sweets. I can only liken the berry to a vegetable honey, so pure its flavor and agreeable its sweetness.

To touch upon the economic value of mulberry leaves in fostering the culture of silk industries is ancient history. The Egyptians, the old Greeks, the Romans and their descendents have profited through careful attention to this vegetable loom of Nature.

I intend simply to suggest as a result of my personal experience, that its ripe berries are eagerly pounced upon by the bees as they would a broken comb of honey. The manner of feeding is exceedingly simple. I crush the ripe white mulberries in any convenient dish, and with a piece of shingle, large spoon, or any light carrier readily at hand, I place a quantity of the berry-pulp upon their alighting-board. The bees will naturally investigate for some moments, but when they have tasted the sweet juices a very craze seems to possess them to completely cover the mass, and extract every vestige of its sweetness.

It is possible that here we may glean a hint that will, in great measure, forestall the almost complete honey failure of the last few years, and bring our industry back into the channels of success and profit.

Cook Co., Ill. Dr. Peiro.

[The Doctor brought to us a sample of the mulberries, and we fed it to our bees after crushing. Well, they just carried it in slick and clean from the alighting-board in double-quick time. We should like to taste the flavor of the honey produced from mulberries. —Editor.]

A Swarming Experience.

I do not know that I can give the explanation asked by Dr. C. C. Miller, on page 424, in any better way than to give a part of my swarming record for this year.

Swarms issued: No. 23, May 30, hived in No. 15; No. 15, June 30; No. 23, July 7.

You will see by this that my new or prime swarm cast a swarm, as most of my new or prime swarms do, and that the parent colony,

MANUFACTURER OF
BEE-HIVES
Sections, Shipping-Cases—Everything used by bee-keepers. Orders filled promptly. We have the best shipping facilities in the world. You will save money by sending for our Price-List. Address, Minn. Bee-Keepers' Supply Mfg. Co., Nicollet Island Power Bldg.,
16Atf MINNEAPOLIS, MINN.
Please mention Bee Journal when writing.

I am Now Prepared
to fill orders promptly for Untested Queens reared from a breeder of the HUTCHINSON SUPERIOR STOCK, or a select GOLDEN breeder, and mated to Golden drones, at 75 cents each; $4.00 for 6, or, $7.50 per dozen.
Money order office, Warrentown, N. C.
W. H. PRIDGEN,
22Atf Creek, Warren Co., N. C.
Please mention Bee Journal when writing.

(Exact size of the Pen.)

FREE as a.... Premium

A Foster Stylographic PEN....

This pen consists of a **hard rubber** holder, tapering to a **round point**, and writes as smoothly as a lead-pencil. The **point** and **needle** of the pen are made of **platina**, alloyed with **iridium**—substances of great durability which are not affected by the action of any kind of ink.

They hold sufficient ink to write 10,000 words, and **do not leak or blot.**

As they make a line of **uniform width** at all times they are **unequaled for ruling purposes.**

Pens are furnished in neat paper boxes. Each pen is accompanied with full directions, filler and cleaner.

Best Manifolding Pen on the Market.

19,000 Postmasters use this kind of a pen. The Editor of the American Bee Journal uses the "Foster." You should have one also.

How to Get a "Foster" FREE.

Send two new subscribers to the American Bee Journal for one year, with $2.00; or send $1.90 for the Pen and your own subscription to the American Bee Journal for one year; or, for $1.00 we will mail the pen alone. Address,

GEORGE W. YORK & CO.
144 & 146 Erie St., Chicago, Ill.

ALBINO QUEENS If you want the most prolific Queens—If you want the gentlest Bees—If you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.
11A26t J. D. GIVENS, Lisbon, Tex.

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THE FINEST IN THE WORLD.

Our New 1901 Fifty-Two Page Catalog Ready.

Send for a copy. It is free.

G. B. LEWIS COMPANY, Watertown, Wis., U.S.A.

Branch, G. B. Lewis Co., 19 S. Alabama St., Indianapolis, Ind.
Excellent shipping facilities and very low freight rates for Southern and Eastern territories.

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25 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 25 cents a pound—CASH—for best yellow, upon its receipt, or 27 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

Tennessee Queens!

Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3¼ miles apart, and mated to select drones, $1.50 each; untested warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and but few within 5 miles. 28 years' experience. Discount on large orders. Contracts with dealers a specialty. JOHN M. DAVIS,
6A 26t Spring Hill, Tenn.

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Standard Bred Queens.

Acme of Perfection.
Not a Hybrid Among Them.
IMPROVED STRAIN GOLDEN ITALIANS.

World-wide reputation. 75 cts. each; 6 for $4.00.

Long-Tongued 3-Banded Italians bred from stock whose tongues measured 25-100 inch. These are the red clover hustlers of America.

75c each, or 6 for $4.00. Safe arrival guaranteed. FRED W. MUTH & CO.
Headquarters for Bee-Keepers' Supplies,
S.W. Cor. Front and Walnut Sts.
Catalog on application. CINCINNATI, O.

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Marshfield Manufacturing Company.

Our Specialty is making SECTIONS, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

8A26t **Marshfield Manufacturing Co., Marshfield, Wis.**

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A Superior Red Clover Queen

(AN UNTESTED ITALIAN)

For sending us One New Subscriber and 25 cents ($1.25 in all.)

We arrauged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us this season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he uses is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

All queens guaranteed to arrive in good condition, and all will be clipped, unless otherwise ordered.

We would like each of our present readers to have one or more of these fine Queens. Simply send us the name and address of a new subscriber for the American Bee Journal for one year, and 25 cents extra, and the Queen will be mailed to you. Our queen-rearer is now caught up with orders, and expects to be able to mail them hereafter within 48 hours after we receive the order. He is in another State, and we will send him the Queen orders as fast as we get them at this office. He is prepared to rear and mail a large number.

The cash prices of these Queens are $1.00 each; 3 for $2.70; or 6 for $5.00.

Send all orders to

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

Please Mention the Bee Journal when writing Advertisers

after getting a young laying queen, cast a swarm 39 days after throwing off the prime swarm. This is the quickest that I ever had. It is usually between six and eight weeks, and a common occurrence with my bees; and swarming is not their only motive, as I am getting lots of honey. I think I am in an exceptional locality. I came here from the southern part of this State, and bees never swarmed that way there, to my knowledge at least. C. H. HARLAN.

Kanabec Co., Minn., July 12.

Bees Doing Fine—Alfalfa.

Bees are doing fine. I send a sample of honey. Please let me know what it was gathered from, as we are unable to find out where the bees go. I think they must go a long distance. I rather think it is alfalfa honey, as the farmers are beginning to sow it here some. The bees are busy from early morning until late, and seem to be the only ones that are not complaining of the heat and drouth. The temperature has been from 98 to 102, the last two weeks.

MRS. W. S. YEATON.

Woodbury Co., Iowa, July 20.

[The sample of honey has the color and flavor of alfalfa. It is very fine. Get all you can like it, as such houey never need wait long for a buyer.—EDITOR.]

Good White Clover Flow.

The white clover honey-flow has been unusually good, but is probably at an end. From 33 colonies, spring count, and an increase of 20, I have harvested 818 sections, and there are on the hives some 2000 sections, most of which are full, besides some half dozen extracting supers full. I have several colonies that have produced upward of 150 sections, and three or four have done still better than that. F. W. HALL.

Sioux Co., Iowa, July 22.

Too Hot and Too Dry.

We are suffering with heat and drouth here. I had 21 colonies of bees, spring count, and have 30 at present in fine condition. My crop of white honey will not exceed 400 pounds, and there is no sign of rain, consequently we can not expect a fall crop; but I must have my American Bee Journal.

MRS. PAUL BARRETTE.

Crawford Co., Wis., July 19.

Another Honey Crop Failure.

I am sorry to have to report another failure of the honey crop. It seems as if there would be nothing this fall, either, in the way of honey, for our fields are parched. The corn is tasseling out without any prospect of ears, and the crop of weeds, which are generally luxuriant at this season, seem to be just as bad off as the more valuable plants. This is probably one of the worst drouths ever seen in this section. C. P. DADANT.

Hamilton Co., Ill., July 19.

Hot, Dry Weather.

We had a good start of white clover honey, but the hot, dry weather has nearly finished the flow. Basswood yielded but little, and as it is so very dry but little can be expected from heartsease and buckwheat.

Linn Co., Iowa, July 13. G. H. FREY.

Don't Report Glowingly or Too Soon.

There is a report from this county (Marshall), in a recent number of the American Bee Journal, from J. W. Sanders. He says that we are having the heaviest crop we ever had in the State. Now, I have not found it so. We had a few days that were extra good, but the dry weather and strong, southwest wind killed the clover, and made what little basswood bloom there was barren of nectar. I consider that my crop was cut one-half from

what it would have been, if we could have had 10 days more of the right kind of weather. I think bee-keepers should be very careful not to give too glowing a report, and not report too soon.

I put 42 colonies into the cellar last fall, and took out 40 good ones. I have increased to 63. I will have about 50 pounds to the colony, spring count; about one-fourth extracted, and the balance comb honey.

C. P. McKINNON.

Marshall Co., Iowa, July 20.

Too Wet for a Honey Crop.

On account of too much rain there has been no honey taken in this locality yet. White clover, linden, and chestnut are in full bloom, and bees work nicely when the weather is fair. All my colonies are very strong, and in good condition to work, but so far no honey.

S. F. SAMPSON.

Greenbrier Co., W. Va., July 17.

Bees that Have a Record

(See page 459 American Bee Journal.)

Have longest tongues, handsome, gentle, great hustlers for honey, all tested queens, and sold at rate of $8 per dozen. By return mail.

HENRY ALLEY, Wenham, Mass.

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Bee-Keeper's Guide

Or, Manual of the Apiary,

—BY—

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460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book published to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipped, or his library complete, without THE BEE-KEEPERS' GUIDE.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

Given for TWO New Subscribers.

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Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let every body try for it. Will YOU have one?

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Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

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Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

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M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, July 18.—Choice white comb honey is arriving rather more freely and brings 15c. There is no accumulation at this writing, as receipts sell within a week after arriving, some of them on the same day. Amber grades bring about 12c. Extracted dull and slow of sale at anything over 5@5½c. Beeswax steady at 30c with good demand. R. A. BURNETT & Co.

CINCINNATI, May 17.—No demand for comb honey, also stock of it well exhausted. Extracted very dull; sales are more or less forced; lower prices from ½ to 1 cent per pound.

C. H. W. WEBER.

BOSTON, June 29.—There is practically no comb honey in our market, and owing to warm weather very little call for it. Are expecting some new comb early next month. Market for extracted dull, at 6½@7½c.

BLAKE, SCOTT & LEE.

OMAHA, May 1.—Comb honey, extra white, 24-frame cases, per case, $3.40; No. 1, $3.25; amber, $3.00. PEYCKE BROS.

NEW YORK, July 8—Our market is practically bare of comb honey, and demand good for white comb. Fancy stock sells readily at 15c; No. 1 white at from 13@14c, and amber at 11@12c. Extracted not in much demand, with plenty of supply; white, 6@6½c; light amber, 5½c; dark, 4½@5c. Beeswax firm at 29c.

HILDRETH & SEGELKEN.

ALBANY, N. Y., June 18.—Honey market is dull with no receipts or stocks and little demand. It is between seasons now. Prospect of good crop in this vicinity from what bees there are left, the greater portion having been killed by foul brood exterminators. H. R. WRIGHT.

DETROIT, July 18.—Fancy white, 15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c; dark and amber, 5@6c. Beeswax, 26c.

M. H. HUNT & SON.

BUFFALO, July 10.—No demand for honey yet unless a very small amount of fancy white at perhaps 15@16c. Some old lots still about, unsalable, almost, at 6, 8 and 10 cents. Beeswax, 22@28c. BATTERSON & Co.

KANSAS CITY, June 14.—Very little old honey on our market but what is damaged by being granulated. Sales are light at 15 cents for best grade No. 1 Colorado. Amber, 13c. Beeswax firm at 25@30c.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

SAN FRANCISCO, June 19.—White comb, 11½@12½ cents; amber, 9@10c; dark, 6@8 cents. Extracted, white, 5½@6½c; light amber, 4@4¼c; amber, 3½@4c. Beeswax, 26@28c.

Market shows no quotable improvement, but there are no large quantities obtainable at the prices generally named by dealers. In a small way, for especially desirable quantities, slightly higher prices than are quoted are being realized.

Wanted Fancy White Comb Honey in no-drip cases; also Extracted Honey. State price, delivered. We pay spot cash. FRED W. MUTH & Co., Front & Walnut Sts., Cincinnati, Ohio. Reference—German National Bank, Cincinnati.

28A17t Please mention the Bee Journal.

Wanted—Honey.

Car Lots or otherwise; will pay highest market price, spot cash. Address, stating quantity, quality, and price desired at your station. Will send man to receive when lot is large enough to justify. THOS. C. STANLEY & SON,

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Wanted.

Comb and Extracted Honey. Will buy your honey no matter what quantity. Mail sample of extracted, state quality of comb honey and price expected delivered in Cincinnati. I pay promptly on receipt of goods. Refer you to Brighton German Bank, this city.

C. H. W. WEBER,

2146-2148 Central Ave., CINCINNATI, OHIO.

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We have a Large Stock on hand and can ship promptly.

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Hives, Extractors

OR ANYTHING YOU WANTIN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

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FILL ALL ORDERS

By Return Mail.

Italian Queens Warranted

Untested, 75 cts.; Tested, $1.00: Select Tested, $1.50. Half dozen or larger lots as may be agreed on. Address,

RIVER FOREST APIARIES,
RIVER FOREST, Oak Park Post-Office,
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And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	$ .70	$1.20	$2.75	$5.00
Sweet Clover (yellow)	1.00	1.80	4.25	8.00
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White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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has concluded to sell QUEENS in their season during 1901, at the following prices:

1 Untested Queen ..$1.00
3 Untested Queens.. 2.25
1 Tested Queen 1.25
3 Tested Queens.... 3.00
1 select tested queen 1.50
3 " " Queens 4.00
Select Tested Queen, last year's rearing 2.50
Extra selected breeding, the very best..5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

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11A26t Borodino, Onondaga Co., N. Y.

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We guarantee satisfaction. ⁂

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS. PATENT WEED-PROCESS SHEETING.

Why does it sell so well? ⁂

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

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Langstroth on the Honey-Bee—Revised,
The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

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More Bee-Keepers' Paradises....

E. R. Root has just returned from a 6,000-mile trip through some of the best bee-locations in the world, and has already begun his series of write-ups, accompanied with fine photos, in Gleanings in Bee-Culture. The following editorial appears Aug. 1, and will give something of an idea of what he will describe:

Some little time ago I promised to tell about the bee-keepers' paradise in Texas. I have this on the docket, and it will appear as I take up the line of my travels. But since running across that paradise I have run into two or three others. There is one west of the Rockies, in Colorado, that is not yet overstocked with bees or bee-keepers; another one in Central Idaho—in fact, I do not know but the whole State. These will be described in turn. The fact is, millions of capital are being invested in irrigation; irrigation means alfalfa; alfalfa means a paradise for bees. But I found all along my trip that alfalfa-growing preceded bee-keeping by two or three years, for it seems to take about that length of time before bee-keepers find these gold-mines that have been hitherto unoccupied.

If you are dissatisfied with your present location, and for financial reasons, or on account of health, will be compelled to leave, subscribe for Gleanings in Bee-Culture, and learn something about the great South and the great West. There are many locations in the West that are not yet occupied—splendid bee-locations. If you wish to learn about them, send 25 cents for a six-months' trial subscription, or $1.00 for one year and one untested Italian queen. Or, send $2.00 and we will send Gleanings one year and one of our celebrated Red Clover Queens.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor

CHICAGO, ILL., AUGUST 8, 1901.

FORTY-FIRST YEAR
No. 32.

WEEKLY

F. GREINER, OF ONTARIO CO., N. Y.—(See page 503.)

THE AMERICAN BEE JOURNAL.

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

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GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

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To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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[AN UNTESTED ITALIAN]

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We arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us this season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he uses is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

All queens guaranteed to arrive in good condition, and all will be clipped, unless otherwise ordered.

We would like each of our present readers to have one or more of these fine Queens. Simply send us the name and address of a new subscriber for the American Bee Journal for one year, and 25 cents extra, and the Queen will be mailed to you. Our queen-rearer is now caught up with orders, and expects to be able to mail them hereafter within 48 hours after we receive the order. He is in another State, and we will send him the Queen orders as fast as we get them at this office. He is prepared to rear and mail a large number.

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The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

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Chicago, Ill.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

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How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO. St., Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., AUGUST 8, 1901. No. 32.

Editorial.

General vs. Special Knowledge.—The tendency nowadays is toward specialism. Even in bee-keeping there are special lines, and a man is likely to do his best when he confines himself within certain limits. But it is a serious mistake to think that one should study up only what comes directly within his line. It is not likely that any bee-keeper became very proficient in any one line without being pretty well informed in all other lines pertaining to bee-keeping. A good, all-around bee-keeper makes the best basis for a good specialist. Dr. Miller's advice in another column is good. Inform yourself in advance, even upon subjects that you think may never have any interest for you. Study *all* of your text-book until it is familiar. Don't omit a knowledge of the Dzierzon theory. Lay a solid foundation, and then when the time comes that knowledge upon any point is needed, it will be ready.

Northern vs. Southern Queens.—A wordy discussion upon this subject occurs in the Southland Queen between S. E. Miller and E. J. Atchley, which, if it proves nothing else, proves that men may have very different views. What one claims for the North the other claims for the South. Mr. Miller claims that people of a temperate climate are superior to those of a tropical climate in strength, hardiness, industry, and otherwise, and that where a Northern and a Southern army meet on equal terms the Northern army is victorious. Mr. Atchley says late history proves that it takes ten Northern men to conquer one Southern man; that the men and women of the South, as a rule, are strong and robust, capable of enduring great hardships, and less subject to disease than those of the North; that Southern queens lay more and live longer, and the bees live longer, are more hardy, and gather more honey.

Feeding Back.—Editor Hutchinson is one of the limited number who has made a success of getting sections completed by feeding back. In the Bee-Keepers' Review he gives some excellent hints. If the feeding is begun just as the flow from basswood is beginning to slack up, the work will go on apace, whereas every day's delay after that time will make it necessary for the bees to fill up again in the brood-chamber. Contract to five Langstroth combs at the most. Three are better, but in that case there will be a weakened colony unless it is strengthened by adding to it cases of sections, bees and all, from other colonies. Add boiling water to the honey to be fed until it is thin as nectar. With 100 pounds of unfinished sections and 100 pounds of extracted honey, Mr. Hutchinson gets 160 pounds of finished sections. He says further:

Black bees do the best work; hybrids next; then comes the dark Italians. Light Italians do very poor work in feeding back.

Sort over the sections, making two grades of them as regards their completion. Contract the brood-nests of the colonies that are to be employed. Set the cases of sections around, one on a hive, but not on the hives containing the colonies that are to be employed in feeding back. The bees will go up and occupy the sections. Now gather up the cases, bees and all, and put two cases on each hive. This is done to secure populous colonies, as they do the best work in feeding back. I have never had trouble from the bees quarreling. Put a case of nearly finished sections next to the brood-nest, and those that are not so nearly finished on top, and then the feeder.

Note the peculiarities of the different colonies. One will take down the feed and draw out the combs much better than will some of the others. Another colony will be a poor "feeder," but will cap the honey much better than some other colonies will cap their honey. As the work progresses, and fewer colonies are needed, throw out those that do the poorest work.

A Putty-Knife as a Hive-Tool, to scrape propolis off the hives, pry frames apart with, and for scraping off burr-combs, is recommended in the Progressive Bee-Keeper. "Somnambulist" suggests that a small trowel with the edges sharpened is hard to beat.

Moving Bees for Fall Flow.—An interesting discusssion upon this topic at the Ontario convention is reported in the Canadian Bee Journal. Among the points brought out was one that even if no surplus is gained there may be pay for the trouble in the better supply of winter stores, and still further there may be a great advantage in the greater number of young bees to go into winter quarters. It was urged that, although for spring and fall moving a large-sized entrance covered with wire-cloth may give sufficient ventilation, this will not do when moving to the buckwheat fields in hot weather. There should be a space of two inches over the brood-frames, with wire-cloth over. Some preferred a hay-rack with a layer of hay without springs; others preferred heavy springs. A board platform may be used with common carpet tacks sprinkled over it. The tacks will sink into the platform and into the hive-bottoms, preventing the hives from sliding about.

To prevent trouble with a nervous driver in case any hives should spring a leak, mosquito net may cover the entire load. On a close, warm day, if bees begin to stick their tongues up through the wire-cloth, they should be well sprinkled with water. The bees will suffer less if hauled at night, or if the start be made in the middle of the night. Frames should run crosswise on the wagon. Some hauled the bees home late in the fall, putting them immediately in the cellar without opportunity for a flight, and found no bad results.

Alfalfa Honey, although always of good flavor, says Editor Root, varies in color, in some localities being light amber, and in others almost water-white.

Measuring Bees' Tongues.—It has more than once been suggested that it is no safe criterion to judge the value of a worker-bee by mere length of tongue alone, because there may be a difference in the energy of two bees having tongues of the same length. This difference can be measured by the difference in the amount of stores gathered by two colonies. A. J. Wright, in Gleanings in Bee-Culture, proposes a more expeditious method of measuring this energy, and without taking all the bees of a colony. He has constructed an ingenious glossometer, which gives measurements to the thousandth of an inch, and says:

"The energy of the bees is clearly shown in their efforts to reach the candy. While some are easily discouraged, and give up without much effort, others will persevere, and work and stretch their tongues to the utmost limit; and when the candy is clearly beyond their reach they seem loath to yield."

Mr. Wright is perhaps the first to suggest the advisability of measuring the capacity of the honey-sacs of different bees, in doing which only one bee must be taken at a time and allowed to fill its sac from a receptacle so small that the amount taken can be accurately determined. While in general larger honey-sacs go with longer tongues, two bees having tongues of the same length may have honey-sacs of different capacities. It is not hard to believe that a bee with a small honey-sac must make more journeys, hence consume more time, in storing a given amount, than one with a larger sac. He says that the living bee, when reaching for nectar, can protrude its tongue further than the tongue of the dead bee can be stretched without rupture, and that the bees of a queen, *if pure*, differ but little from each other in tongue measure, capacity of the honey-sac, and working energy. Objection is made to using wire-cloth in a glossometer, as the apertures are by no means uniform in size or shape.

Contributed Articles.

Width of Top-Bars of Extracting-Frames, Etc.

BY C. P. DADANT.

MR. DADANT:—I would be very much obliged to hear from you as to what width of top-bars you would advise to use when only 9 frames are used on a ten-frame hive? Then another question: Which do you consider the best way to have combs in extracting hives cleaned by the bees when they are not to be used again the same season? We have sometimes put such extracting hives back on the colonies, but frequently a good many bees remained in them, and again at other times they gathered the honey all right but did not take it down in the brood-chamber.—JACOB WAGNER.

In replying to these questions, I will refer the reader to an article previously written by me on page 452, on the spacing of extracting-frames, and the number of them to be used in a super.

The thickness and width of top-bars has influence, in only one particular, as far as I know, that is, it helps control the amount of burr or brace combs built by the bees. With a light top-bar, of narrow width, the bees will often build a great number of brace-combs, joining one comb with the other and filling every available space with honey. This makes the handling of the combs more or less inconvenient. When the frames are made with a wide top-bar, leaving only a narrow bee-space between the combs, and especially when the top-bar is also thick perpendicularly, there is much less brace-comb built.

But, in extracting, the wide top-bars have the great inconvenience of being in the way of the uncapping-knife, until the combs are built out far enough to remedy this. Many of our friends prefer the ordinary narrow triangular top-bar for this very reason. In our own practice, we have used both the 1⅛ top-bar and the ⅞, and we find very little difference in practical results. If the frames are kept as far apart as is necessary to secure thick combs, the bees will build brace-combs anyhow, even if we use wide and thick top-bars. But we do not find much inconvenience resulting from it, because we keep our bees sufficiently supplied with space to prevent them from building brace-combs. The latter are usually built when space is getting short in the super and seem to be the finishing touch which the bees give to their supers. If we forestall their aim, by adding more combs or by extracting, no brace-combs will be built. So, in our estimation, the width and thickness of the top-bar of extracing-combs is not of any particular importance.

CLEANING EXTRACTING-COMBS.

Concerning the giving back of the extracted combs to the bees to be cleaned at the end of the season, I am decidedly in favor of the affirmative. The question was discussed at length last spring in the International Review of Bee-Culture, of Switzerland. My readers well know that, over there, they produce extracted honey almost exclusively, and many different methods are followed. There seems to be about an equal division on the matter of returning the combs to the hives. But the advantages of the method, in my mind, very greatly overbalance the disadvantages.

It is held by those who are in favor of not returning the combs to the hives, that they are just as easily kept when sticky with honey; that it saves a great deal of time, and quite a great deal of trouble, and that when the supers are given to the bees in the spring, they work in them much more readily if these combs are rendered attractive by the honey sticking to them.

On the other hand, the combs which are left smeared with honey when put away for winter attract mice much more readily than if they have been thoroughly cleansed by the bees. Mice will make very little effort to enter a surplus case, if there is no smell but that of the wax; but if they can perceive the odor of honey they will take special pains to work their way in, for they are very fond of it. Whenever I have had combs damaged by the mice, I have almost invariably found them to be combs that contained honey, especially honey that was strong in flavor and odor.

Another objection is, that when you put the supers on the hives, in spring, you run the risk of exciting the bees to rob, for it is very often before the opening of the crop that the supers are put on the hives. It is true, the same precaution might be taken in the spring to put the supers on the hives as is taken to return them to the bees in the fall, by doing it at the end of the day's work, just before night, so that any excitement caused by the running honey will soon be quenched by the shadows of night. But it is much easier to do this after a day's extracting when you have a force of four or five people on the spot, than to do it in the spring, when the apiarist is usually alone to do the work.

There is also another objection to leaving all the combs daubed with honey for four or five months—it is the danger of causing a fermentation in this honey. We all know that honey has a strong tendency to the absorption of moisture—it then becomes watery, and ferments easily. When it is spread over a considerable area, as is the case after extracting, there is a very great danger of this fermentation, and though the quantity is very insignificant, it produces numerous germs on the combs which are to contain the next crop, and it seems to me that there is but little doubt of the danger arising from this for the following harvest, especially if the honey was watery when gathered.

It is true that it takes a little more labor to put the supers back on the hive, when we know that they must be again taken off before winter, but it is thus with every pursuit—we can have nothing without labor, and those who take the most pains are usually those who succeed best.

Hamilton Co., Ill.

Long-Tongued Bees—A General Rejoinder.

BY G. M. DOOLITTLE.

MY article on long-tongued bees, on page 293, seems to have stirred them up quite generally, if what has appeared in print on this subject since then gives a true indication in the matter. And I have waited a little, till "the storm had passed away," so that I might send in a general reply to all, for I see that I did not make myself fully understood in my former article. Some seem to get the impression that I was accusing *advertisers* of making "false statements" regarding long-tongued bees, for the sake of gain. I did not intend so to do. What I did intend was this:

Gleanings in Bee-Culture, through "Stenog," said, "The movement for longer tongues is simply to get the red clover crop of the North, which now is practically all wasted. The bees, no one claims, would be any better except on that account;" while in the same number of Gleanings were advertisements stating that long-tongued bees were better for all parts of the country, red clover or no red clover, or at least with no qualifications regarding the red clover matter. And as these statements were directly opposite, I wished to show that one or the other was, and must of necessity be, "actually false." If this showing or conclusion was wrong, or if I wrote in a manner tending to convey any other impression, I am sorry, and ask pardon. I certainly had no desire to do injustice to any.

Next, to offer prizes, and so put things by editorials or otherwise, as to draw out only one side, without putting the other side on an equal footing, is what I call misleading, and especially so where this is done in the reading columns of a paper in a way tending to point toward some financial interest of the promoter. If so calling was wrong, or if I wrote in a manner giving a different impression, I regret it more than any one else. Not till the "fad" for long tongues had nearly "spent itself," was there any call made for tongues to measure from colonies which had proved themselves inferior for honey-gathering. To have been fair this should have been done at the outset.

Then, when a person writes from an opposing side, and a foot-note is used so as to turn what the opponent says that it may point toward the fad—this is what I call twisting, and something our bee-papers of to-day should not stoop to doing it. If I am "off the track" here, I am sorry. I do not wish to look at things through a distorted vision.

Again, in closing my article I said, "There are times when it is necessary that a 'halt should be called' by some one, and as no one had seen fit to do this, I felt it my duty to do so." Replying to this part, both Dr. Miller and E. R. Root point me to a certain editorial on pages 295-296 of April 1st Gleanings, to show that a halt was there called, which I had made no mention of, and if I would be fair I would have noticed it. Well, if I had considered that editorial a calling of a halt I should have noticed it. Allow me to quote from it, similarly to the way Dr. Miller and Mr. Root did:

"The breeder who sells an untested mother of long-reach stock sells her for just what she is.....Unfortunately, the buying of queens, even from the best of breeders, is something of a lottery; but if one will pay enough, and get *tested* stock, he then has some reasonable assurance of getting what he orders. The A. I. Root Co. will, if desired, sell tested queens whose bees will have a tongue-reach of a certain specified length—the longer the reach, the higher the price, of course; and I have no doubt that other breeders will do the same, providing that they learn how to measure the bees' tongues, or get some one who knows how to do it for them. We will undertake to measure the tongues of any bees of our subscribers for ten cents per cage of one dozen bees."

It seems strange that Dr. Miller, or even E. R. Root (who wrote that editorial), can see anything but a semi-advertisement in it, especially as immediately on the eve of this editorial, advertisements of the A. I. Root Co. appeared quoting queens at $10, $15 and $25, according to guaranteed tongue-reach, and thus writing editorials which can be read either as the "calling of a halt" or as an advertisement, is what I called "rubbish," in my article. I do not like to see the reading columns of any paper thus prostituted, and so "spoke right out in meeting" about the matter. If, in any of these matters, I was too caustic, or did not use becoming language, I am sorry, for I do not wish unnecessarily to wound or offend.

Then Dr. Miller and W. Z. Hutchinson call my attention to the fact that they both "called a halt," the Doctor in "Stray Straws," and Mr. H. in the Review, which is right. But when they come to know that my article was written the first half of April, and that neither April 15th Gleanings nor the April Review reached this post-office till April 20, or later, it will be seen that I had seen neither of these at the time of writing my article.

Mr. Root seems to think that I am "way off" in thinking that any "fad" has been the means of wasting "thousands of dollars." Has he forgotten, or has he never read in back volumes of Gleanings, how a top-bar made of ⅞ lumber and sawed only ¼ inch thick was pushed? and how folded-tin bars were, later on, placed between top and bottom bars, in the center, to keep it from sagging? And when thousands and millions of these frames were in use, because Gleanings pushed this thin, narrow top-bar, he wondered how bee-keepers ever tolerated such a nuisance (?) and told of the awful job it was to pry off upper stories and supers from them! Then Gleanings swung around to the other extreme and pushed a top-bar as much too thick (in my opinion) as the other was too thin. And all this time Doolittle was using a top-bar one and one-sixteenth wide by five-sixteenths thick for the Gallup frame, and the same width by seven-sixteenths thick for the Langstroth, and I so use them to-day, and so advocate, and have advocated for the past 30 years, notwithstanding Mr. Root's thinking that I have changed my views on the subject. And would not the using of millions of such "tolerated nuisances," and the changing over to a thicker nuisance (to say nothing of the vexation resulting from using such), cost up into the thousands of dollars?

Again, Mr. Root seems to think that I have been the chief promoter of "the rage for Golden Italians," but not he, nor any one else, can find where I ever advertised them, by circular or in any bee-paper; and unless I am greatly mistaken (I have not time to look the matter up now), he cannot find a single word in print, coming from my pen, where I have even mentioned them during the past five years. I once gave what I considered their origin, and once set right some mistakes regarding them, but no one can truthfully accuse me of "pushing" them. If I had desired to do so, the editorial colums of the Progressive Bee-Keeper have been open to me during the last five years.

I may be wrong, but it seems to me that there is a vast difference between a contributor or an advertiser "having his say" in a paper, and the editor of the same paper, by foot-notes and editorials, pushing the same thing. With the former, there are other contributors and other advertisers to offset the first, but with the latter the editor stands supreme, and can, if he chooses, turn the current of thought in the direction he wishes, without any one effectually to gainsay in the matter.

In conclusion, I wish to say that I am not opposed to long-tongued bees, long-winged bees, or bees having large honey-sacs, etc., but I am opposed to the pushing of any of these in a sort of one-sided way, without at the same time trying to draw out the truth in the matter by giving the contrary side an equal chance. 'Tis time enough to push things after they are *known* to be right, and, to my mind, a thing should *never* be pushed by the *editor* or *publisher* of a paper until it is so known. Onondaga Co., N. Y.

Continued from page 471.)

No. 10.—Practical Lessons for Beginners in Bee-Culture.

BY J. D. GEHRING.

NO drone-brood was found on any but the third and the fifth frames. When Mr. Bond inquired why there was none on the frame between these two, nor on the frames on the outside of the brood-nest, I reminded him of what I had previously told him about giving a new swarm a few frames without full sheets of foundation, for reasons also then stated.

"This frame to which you direct my special attention," I explained, "serves, better than any other in the hive could, as an illustration of the way my theory works, as applied to the drone question in bee-keeping.

"You see, here," I continued, as I took the frame in my hand, "how bees will sometimes take advantage of opportunities in their efforts to outwit the intermeddler, and to carry out their intuitive perception of the fitness of things in their household management. Had I given them a frame containing a full sheet of comb foundation, in place of this with a starter only two inches in width, they couldn't have made any drone-comb in it. They can not convert comb foundation into drone-comb—at any rate they have never been known to do it.

"Well, here is the explanation, Mr. Bond: When I hived that swarm I put only these two frames having starters in them into the hive—near the center. Four of the other ten had full sheets of foundation, and four were newly finished comb—not a drone-cell in any of them—taken from another hive, all nearly solid with ripe brood. So, you see, this colony had no chance fo build drone-comb on any of the frames except these two; and here they tried to make up for it by using nearly the whole space of the frames, below the starters, for that purpose."

"But I don't understand," remarked Mr. Bond, quizzically, "why you allowed them to rear drones on these two frames when you could have prevented it, just as well as not. Didn't you say that you didn't want any drones here?"

"Perhaps I did say that," I replied, "and I confess that the whole matter has a queer look—must have to you. But the contradictions all disappear when I say: I forgot about those two frames, otherwise I would have exchanged them for drone-proof frames before the bees had time to build the drone-comb. It is true that I don't want these drones; neither do I want any more to hatch out in my apiary this summer. There are plenty on hand now to answer the only practical purpose that a sensible bee-keeper rears drones for.

"But, let me tell you, Mr. Bond, the regulating or controlling of the drone-business in an apiary of even 20 or 30 colonies, is, I believe, the most difficult task a bee-keeper can put upon his business program. It demands eternal vigilance to make the problem a success. It's a fight against nature, and therefore against many obstacles; some of them unknown until learned by experience, and nearly all of them hard to overcome.

"One of the most serious of the obstacles has just been pointed out by intimation when I said I forgot about these two frames. If every bee-keeper who tries to climb to the top of the business had a good, reliable memory, instead of a first-class forgettery, that alone would go half way, at least, toward success in the matter of regulating the production of drones by the bees."

"But I don't understand," remarked Mr. Bond, "why you should go to so much trouble to prevent drone-increase if, as you say, all the harm drones do is, that they eat honey and don't work."

"Mr. Bond," I replied, impressively, "it is honey I keep bees for. As far as drones are a help to me in getting the largest possible yield each year, I tolerate them, and don't interfere with the bees in their efforts to produce them. But when I know that my bees are rearing more drones than are needed for the only legitimate purpose, I am disposed to interfere, because I know that the honey eaten by useless drones is lost property. Besides, all the drones in a hive that are not really needed are a nuisance, because they are in the way of the workers during busy times."

"But," queried Mr. Bond, mischievously, "if bees have intuitive sense—as you have been trying to convince me—how can you make out that they don't know, intuitively, how many drones they really ought to have?"

"Mr. Bond," I replied, "bees have intuitive sense

enough to know that they can't get along without drones; but they don't seem to have enough of it to guide them to the fact that more than enough is too many. However, let us get down to business, Mr. Bond.

"I wish you to take a good look at this drone-comb and the brood in it, and compare it with the worker-brood just above it. You can easily see the difference in appearance, so that you will always know the one kind from the other. The principal distinction between them is, that the drone-comb projects out beyond the surface of the worker-comb. And that enables me, when I am destroying drone-brood, to slice off the heads of the matured but unhatched drones with my sharp, thin-bladed honey-knife, without injuring any of the worker-brood."

"That looks easy enough," remarked Mr. Bond, after seeing me perform the operation. "But, how do you get the beheaded drones out of the cells?"

"I don't try to get them out. The bees can do that, so I simply replace the frames as they are, and close the hive. Before sunset you will find most of those headless corpses out in front of the hive. How they manage to drag them out of the cells I don't know, never having watched them at the work.

"But here is another thing that I want you to look at, Mr. Bond," I said, holding the frame in my hand up before him and pointing to three queen-cells on one side of the comb. You told me yesterday that you had never seen a queen-cell. Hereafter you will always know one when you see it."

"So those queer-looking things are queen-cells," said Mr. Bond, meditatively. "Well, I declare! I never thought they were anywhere near so large—nearly the size of a small sewing-thimble, and full of little holes on the outside, too. Does the old queen build those cells?"

"The question took me by surprise, coming as it did from a man past middle age, and in dead earnest, too. But I repressed a strong inclination to smile, and told him the truth about the matter:

"No," I said, "the old queen has nothing whatever to do with it, except to lay the eggs from which the young queens develop. The worker-bees build the queen-cells, and when they are completed they fill them with bee-food, or royal jelly, as bee-keepers usually call it. The cells are then sealed up at the small end and the queen-larva lives on that jelly and grows until it is able to eat or gnaw itself free, and soon after crawls out to begin her career as a queen."

"Do you mean to tell me that a queen grows from the same kind of an egg that a drone or a worker comes from?" asked Mr. Bond, somewhat excitedly.

"Yes, and no, Mr. Bond," I replied. "A queen is reared from the same kind of an egg that produces a worker under ordinary treatment—that is, when reared in an ordinary brood-cell. Both are female eggs, but the workers are undeveloped female bees. But the drones are reared from male eggs. A fertilized queen can lay both kinds; and either kind at will."

"How do you mean that?" queried Mr. Bond.

"By that I mean that a laying queen can lay either female or male eggs, as she pleases. When she inserts the small end of her body into a worker-cell she usually deposits a worker-egg; and when she deposits an egg in a drone-cell it is seldom a female egg. That's the whole story, Mr. Bond; but it's a long way from being an explanation of the mystery, or, if you prefer, the philosophy, of the fact.

Mr. Bond looked very serious as he remarked, "I didn't think those things were possible. I begin to see that I know as little about bees as I do about bee-keeping. I see now, that to be really successful with a hundred colonies I must first learn how to manage one colony, up-to-date, as the saying goes.

"But tell me, please," queried Mr. Bond, "what are you going to do with those queen-cells?"

"I am going to put the frame they are on back in its place in the hive," I replied. "One of the young queens is beginning to gnaw the cap off her cell, you see"—showing him the cell, on the small end of which a slight movement was discernible—"and she will be making an inspection tour of the hive before to-morrow noon, I think. She will have to be watched or she'll destroy the other two young queens in their cells."

(To be continued.)

The Premiums offered this week are well worth working for. Look at them.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Advice to Beginners.

If you want to be in the front rank as a bee-keeper, you will do well to inform yourself upon all phases of bee-keeping. Some of you make the mistake of thinking, "Oh, that subject, or the other subject connected with bee-keeping, may be well enough for those particularly interested in that direction, but it doesn't come in my line, and I'll not waste reading it." And so you miss reading some of the very things you most need.

"How do I know you don't read everything?" I'll tell you how I know. Nearly every week—well, say once in two weeks—I get a question from some one when that question was answered not two months before. This summer the question that has come oftener than any other is the one referring to swarms absconding after being hived; and many has been the swarm lost because the loser didn't think he needed to know anything about absconding swarms until he had one of his own abscond.

Now, I don't want to choke you off from asking questions in the least; some of you don't do as much of it as you ought; but I want to suggest that you would be the gainers if you would read up in advance what is written for others.

Not so very long ago it was said to me, "I suppose you don't read a large portion of what you find in the American Bee Journal." That supposition could not have been wider of the mark. Except what was written by myself, I dare not omit the reading of any word. The short letter from some beginner may have no word of information to pay for the trouble of reading it, and then again one time out of a hundred it may; and I don't know which one out of the hundred may give some hint of value; so the only safe plan is to read the whole hundred. C. C. MILLER.

Swarms Absconding from the Hives.

Can you give any information about bees leaving the hive after hiving them? I have lost about half the swarms this year in that way. WISCONSIN.

ANSWER.—The absconding of swarms this year seems to be unusual. Doubtless it is on account of the unusual heat. Do all you can to keep your swarms cool by shading and plenty of ventilation. Raise the hive on blocks, and for a few days let the hive-cover be partly off.

Painting Barrels for Holding Honey.

Will it do any good to paint alcohol barrels that I intend to use for holding extracted honey?

MINNESOTA.

ANSWER.—I don't know. I doubt if it will pay, and will be glad to be corrected if I am wrong.

She Has Troubles of Her Own.

I winter my bees in a shed, long and narrow with a door in the west end. I pack them in as warm as possible, and open the door on pleasant days. Last winter I put in 10 colonies, part Italians and part blacks. I gave the Italians the warmest places, and near the door where it was almost to the cold I placed a strong black colony. Last spring, on taking them out, the colonies near the door were just overflowing with bees, both blacks and Italians, while some of the other colonies seemed to have scarcely bees enough to keep them warm. One Italian colony, especially, had a queen and a mere handful of bees. As soon as the weather was favorable I divided the large colony, intending to give the queenless half to the small Italian

colony, but before I could do it the Italians were all dead. I immediately sent South and got two queens, thinking that, as I had the colony divided, and there were such a lot of bees, it would be a good time to Italianize them. I successfully introduced both queens, but those two colonies have just dwindled down to nothing. Yellow bees would hatch out and I would find them crawling around outside of the hives. One queen turned up missing. The other deserted her hive with a handful of bees. Now, where did I make a mistake? and will those combs do to give to other colonies? Do bees make a practice of going into different hives in winter? ILLINOIS.

ANSWER.—To be entirely candid, I don't know enough to say just what mistake you made, or whether indeed you made any. Possibly a fuller knowledge of particulars might help in the diagnosis; possibly not. It is quite likely that the season had something to do with it, especially if you operated somewhat early, for the spring was unusually bad. It happens only too frequently that bees desert their hive and enter another, especially in a bad spring when there is more or less spring dwindling. It will be all right to give the combs to other colonies.

Swarming—Wintering Bees.

1. I started last spring with three colonies of bees, one of which has sent off two nice swarms, another cast one, and the bees issued from the third hive, and returned to the hive without clustering. In how many days thereafter may I expect them to issue again?

2. I have a room in the southeast corner of my house, with one window on the east side, and a door opening into a small, warm hall. Would it make a suitable place in which to winter my bees? If so, ought the window to be darkened entirely, and should a curtain or blanket be hung at the door, as it does not fit very tight? There is no way of warming the room, except by opening the door into the hall, but nothing ever freezes in it unless in the very coldest weather. NEW YORK.

ANSWERS.—1. Hard to tell. It depends altogether on conditions. If the old queen was in the hive, they may come out the next day or so, or they may not issue again till a young queen is matured eight or ten days later. It is possible that the old queen was gone, and the swarm issued with a young queen, returning because the young queen could not fly, or for some other reason; in which case they may come out any time within two or more days, when another young queen is matured. It is also possible that a young queen was present and that the swarm was merely something like an escort for the young queen when she took her wedding-trip, and no further swarming will take place. So the full answer is that there may be no further issue, and that there may be one on any one of the following sixteen days.

Building Up Colonies for Winter—Buying Bees.

1. I have an apiary of six colonies. I purchased three large swarms two weeks ago, for $3.00, and hived them in Hubbard hives, and I think they have stored 50 pounds of honey each. I have three others that are not doing so well; they are weak in numbers. How can I build them up for winter? I take the American Bee Journal and think it is a great help; I also have Prof. Cook's "Bee-Keepers' Guide." I am very new in the business, and need all the help I can get.

2. I can purchase colonies of black bees at $1.00 each, or can purchase this year's swarms in good, standard hives at $3.00 each. Which would be better to purchase, the early swarms at $3.00, or wait till next season and get them at $1.00? I want to go into the business heavy next season. VIRGINIA.

ANSWERS.—So many things are to be taken into account, that it would almost take a book to tell all the different things it is possible might be done in order that your weak colonies have the very best chance to build up strong for winter. As the most valuable piece of advice in the case, I should say the very first thing is to study carefully your text-book. Then you will be competent to judge what is the best thing to do much better than one who has no opportunity to see the bees. It is quite possible that nothing need be done but to let the bees alone; and that they will of themselves build up strong for winter. See that each has a good laying queen. If you find four to six of the brood-combs mostly filled with worker-comb, it is likely no interference is needed. If you find everything not all right in this respect, it may be that something is wrong with the queen, and that she should be replaced.

2. If I understand you rightly, you can get colonies in hives now for $3.00, and next year you can get the swarms when they issue, without any hives, for $1.00 each. It is hard to tell which would be best. Possibly a compromise might be a good thing, getting half the number now, and filling out the quota with next year's swarms.

Pays to Get Fresh Blood—Bee Veils and Gloves.

1. I have a few swarms of bees, the most of which I gave Italian queens, which I purchased from an Iowa breeder last year, because it was not far to mail them, and I am well pleased with them, they having built up very strong colonies of good workers. I intend to buy some more queens this year, and the question is, Shall I buy from the same place, or from somewhere else, so as to get new blood in my apiary? What would be your advice?

2. I have a veil I made myself that I like the best of any I have seen. I first take a straw hat with medium rim, then I get a piece of common window-screen about eight inches wide and long enough to go around the rim of the hat, and sew the ends together; then sew a piece of cloth over the top a little loose, so the crown of the hat will set up in the cloth; then sew a piece of mosquito net or cheese-cloth on the bottom about 14 inches wide; slip the hat inside, and put it on and button the coat or vest over the bottom, and it is bee-proof, and will not blow against the face nor tear easily. I find I can see better through it than almost anything else. For gloves I take a pair of soft, cheap leather gloves, and sew on some long wrists made of thick cloth that will come nearly to the elbows. With this and my bicycle guards on my pants' legs, I can handle bees with as little fear as if they were chickens. MINNESOTA.

ANSWERS.—1. Other things being equal, there will be some advantage in getting in fresh blood.

2. If you make much use of a veil you may injure your eyesight by looking through wire-cloth. If I remember correctly, one of the veterans had a very bad time with his eyes years ago in that very way. It is better to have a veil that does not require either coat or vest, for bee-keeping is too hot work a good part of the time to wear either.

Biographical.

MR. FRIEDEMANN GREINER.

On the first page of this number appears the portrait of Friedemann Greiner, one of the American Bee Journal's best contributors.

His love for insects and insect life manifested itself early in his younger days. As a boy of six or seven he well remembers spending hours and hours at the old bee-shed of his grandpa's, watching the bees go in and out of the straw-skeps; and what pleasure it afforded him! The school-lessons, and he regrets to say hours, were clean forgotten many a time. Too often did he have to hear the chiding words from the teacher when his home study had been neglected: "Well, Greiner had to take his grandfather's bees out to pasture; couldn't attend to his study."

Mr. Greiner was not all concentrated in bees, but other insects shared likewise. His collections of butterflies, bugs and beetles aroused the envy of his schoolmates. Many days did he spend in the search of rare caterpillars, which, when captured, were fed daily with such food—leaves, plants, etc.—as comprised their accustomed food. When finally the caterpillar had gotten its growth, spun its cocoon, it was with much anxiety that the forthcoming of the butterfly or moth was awaited. When this happy moment did come, the specimen was treated to ether, thus killed, and then prepared for the collection. He always knew where to find rare specimens of water-beetles, etc.

When his grandfather died, the bees went into other hands, and for years not much thought was given them.

But soon after he arrived on the shores of America, at the age of 20 years, his interest in the little busy worker was rekindled, and developed into a disease known otherwise as "bee-fever."

With great enthusiasm he took up the bee-business as his life occupation. Not being sufficiently conversant with the English language, the German bee-literature was studied first. Standard works and bee-keeping periodicals were read through. Bee-keeping was gone into with great anticipations and enthusiasm. Finally, the study of the American bee-literature was taken up, and, by reading the leading bee-papers regularly, he tried to keep up with the procession.

Two hundred colonies are the most he has owned at one time, keeping them in several apiaries. Two years were also spent in Virginia in search of a more favorable location for bees. He finally decided to stay in New York, where he owns a small farm devoted principally to fruit-growing.

Mr. Greiner's anticipations to become rich through bee-keeping, did not materialize, but, loving them, he sticks to them, always having some experiment going, sometimes being on a wild-goose chase, sometimes after realities, but the pleasures he secures, he says, are many times greater than the profits.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

BEE-KEEPERS' EXCHANGES.

Sometimes an argument is a sword which cuts both ways when the one who uses it thinks it cuts only one way. Mr. C. A. Hatch, in arguing for exchanges, says it is only when the soldier ceases to be an individual that the army becomes a power. That sounds conclusive—perhaps is conclusive—but those of us who value our individuality too much to give it up might quibble a little thus: The British soldier is more an individual than the Russian soldier; the American soldier is more an individual than the British soldier; and the Boer soldier is more an individual than the American. We do not consider the above succession a diminuendo, but the opposite. And is it not true that the individuality of the Boer is the very thing that makes him terrible? Now if the Russian and German armies overdo the business of taking away individual initiative, may it not happen that our bee-keepers' exchange will do the same thing?

REPUTATION AS A HUMORIST.

I shall get a reputation as a humorist if the proof-reader keeps on helping me. On page 473, in the place of "800 years" during which the family was to abstain from honey read—something else—probably simply *for* years. Also instead of punctured with dead flies read *punctuated* with dead flies.

SWEET CLOVER.

The Wisconsin Farmers' reply about sweet clover, on page 397, seems to me to be, in the main, a calm and reasonable article. Being brief it did not detail the good points as we might have done. I fear that rejoinders like Mr. Abbott's are too well calculated to make the great, big outside world of mankind think that we are a small group of cranks—cranks incapable of recognizing beans, when the ligature of the bag has been duly loosened before our eyes. Many years ago I introduced sweet clover into our garden. For most of the time it did practically no harm—that is to say, made me little if any more work than the other plants would, which, in the absence of the sweet clover, would have been claiming the same space. Quite recently it has made itself a sad nuisance in the ground occupied by asparagus and winter onions and strawberries. Too tough to hoe out, or chisel out, too strong to pull, and with multiplying powers like the potato bug's. This power gradually to fit itself into new situations is a dangerous one. In my early enthusiasm for sweet clover I sowed some by the roadside (not beyond my father's estate, however) and to the best of my knowledge not one plant from that sowing ever came to bloom. But after say a dozen years it began of itself to travel out from the garden along the road, and is now abundant for quite a distance.

DR. MILLER AND HIS 70 YEARS.

And so our beloved Dr. Miller, senior member of the staff, is seventy years old. The burden of declining years is but poorly got rid of by pretty speeches, but we will hope that the "labor and sorrow" of which Moses speaks so pathetically may be specially lightened in his case by that Power which overshadows and holds all our lives. It turned out so in Moses' own case. Moses probably wrote that psalm when he was a little past seventy, expecting the next ten years to be weary ones, with death somewhere near. It turned out that he didn't begin to live on a grand scale until he was eighty, and that he finally died at a hundred and twenty without his eyes being dim. Courage and cheer, O comrade! When on earth heaven shall be open, and the servants of God ascend and descend upon the Son of Man, you and I shall come from one of the planets of Alpha Centauri, where we have been telling good news (and introducing bees?), and our eyes shall not be dim, and our hands shall not tremble. Pages 401 and 402.

BREEDING BEES.

It looks possible, dear "boss," that a cross between poor-looking hybrids and five-banders *might* result in three-banded bees—to the confusion of the purity rule. Let's not be too sure of it, however, till some reliable observer has seen it. From what we know of crossing, and its relations to sporting, we would be much more likely to get a colony of all stripes and colors from five bands to none—no evenness in anything. Page 403.

HOW TO "SPOT" DRONE-COMBS.

Red spot painted on the bar right over a patch of drone-comb. Thanks, Mr. Doolittle. Those who wish to do the utmost in the line of controlling drones will do well to take heed. Page 403.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

RECREATION.

If the various home circles could now (July 17), look in upon me and mine at this delightful vacation time, no one would wonder at my theme which I bring into the homes to-day. Where are we? Away up among the Sierra Madre mountains. While we read daily of the terrible heat in all the Eastern cities, I am writing this early morning with my heavy winter overcoat about me, and half wishing it were warmer. While our friends of Kansas are mourning because the rain comes not, our tent is pitched close by a rapid mountain stream, whose waters, fed by the snows hard by, are as cold as they are pure and refreshing. As we lie in our beds, the rippling waters, as they dance over the rocks, sing to us all the night long. This swift-running mountain stream divides just above where we have fixed our vacation sojourn, so that they hem us in, and we are really on an island. The little valley in which our rest-days are flying so rapidly by, that we sigh that the end will come so soon, are so heavily wooded that both shade and seclusion are ever awaiting those who wish to enjoy them. The great mountains, which shut us in on all sides, are also heavily wooded, and we rejoice constantly in the soft, green landscape which holds us in its embrace.

Northwest of us is "Old Baldy," which reaches nearly 11,000 feet skyward. Its snowy summit is only sixteen miles away, and tomorrow our party of eighteen are to scale its heights. It is a cool, delightful, restful place.

I think I have before counted our Southern California blessings in these home papers. The marvelous scenery everywhere; high mountains, grand as beautiful; lovely valleys verdant with alfalfa fields, and resplendent with beautifully kept orchards; incomparable climate, which knows no winter, no sunstroke, but which hands forth warmth and sunshine every week the year through; delicious water that comes pure and sparkling right from the mountain rocks. If typhoid germs, or other taint from water, ever come to blight our Southern California homes, it will speak of gross neglect or carelessness in the homes that are shadowed; most luscious fruits, our party right from our own orchards and gardens bring for our refreshing—oranges, lemons, pomolas, plums, apricots, apples, peaches, and I might have added strawberries, blackberries, raspberries and nectarines. And all these

so sweet and delicious that they nearly melt in the mouth; and, as I usually say, best of all, a grand, true, splendid citizenship. Doubtless God might have made a better people than sojourns in our beloved sunkissed California, but doubtless God never did.

This usually completes my summary, but I desire to add another. Almost all our Southern California homes are so close by sea and mountain that either are within a day's journey by horse, or a few hours by cars. Thus if heat does come, we can flee its presence, and bathe in the clear, pure delightful mountain air, or the warm, refreshing water of the ever restless Pacific. This is no mean advantage. How many hundreds of homes and hearts have been recently saddened in the East, as drouth, hurried on by the crushing heat, has snatched the loved ones, forever away. Here such crises never come to menace, for at the seashore, or in the mountains, we are safe—always safe—from their evil work. I hardly know which I enjoy most, the wondrous air of the mountains, or the luring breeze and bracing waters of the ocean. When here, I think the mountains hold forth superior charm; when there, the sea seems to offer most that enamors, and invigorates. Either is delightsome, and we rejoice with fervent thanksgiving that we can taste so easily and often of both.

Do we in all our home circles think enough of recreation? We are a very earnest people. So intense are we in our business that I fear we often lose sight of the good that may come from the picnic, the camping out, the mountain sojourn, or the weeks by the seashore. We are so fashioned, that the wheels of our human machinery run more smoothly, and will of a surety run longer, if we trend them ever and anon in different grooves. Just as the stomach wakes to greater strength and added energy when given a variety to work upon, so the whole body craves new scenery, new activities, a halt in the everyday round; and a push into work or play that recreates, because new and fresh.

Let us all, in every home circle, plan as best we may to find time to break from the usual routine of work and duty, and in some forest, or by some lakeside, alone, or better, with other families, seek out a different life, and thus make the young younger, and carry youth into old age. And more than this, we will find that we will come back to the usual duties with so much of added strength and vigor that oftentimes we shall soon more than make up for the days of absence, as we will easily do more and better work.

In planning our outing, let us not only arrange for pleasant friends, and wholesome fellowship, but plan for games, music, and reading. Last night we met with many other campers, and had a splendid concert. A piano had in some way reached this retreat, and we did sing with genuine spirit. I heard more than one say as we said our adieus, "It has been the pleasantest time since we came." For the children, Captain January, Dear Daughter Dorothy, and John Halifax Gentleman, will be a valuable part of the company. Fishlines, croquet balls, and hammocks galore, should not be forgotten. Let us all remember about Jack and the all work and no play, and endeavor to make the too just criticism of our English friends—that we think too little of rest, recreation and a good time—less true.

THOUGHTFULNESS.

There are few things that will reveal character like a few weeks' camping. We soon find that some of our party are so thoughtful, so helpful, that we could not have spared them. They are always just where needed; they are ever planning, and successfully, to make all more happy. They are so handy in fashioning the conveniences about the camp, so fertile in preparing meals, so handy in keeping all neat and tidy, that they really are like "a thing of beauty." Were I a young man or woman, and in pursuit of information regarding the character and temperament of some special person of the opposite sex, I should arrange to be for a month in a camping party with them.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

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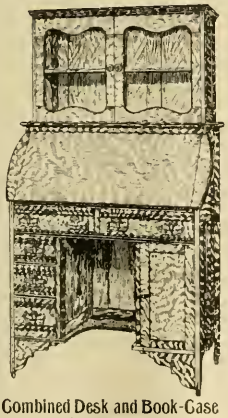

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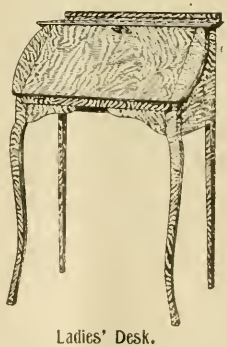

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We were obliged to notify you a few weeks ago that one Joseph M. McCaul had leased our old quarters at Nos. 120–122 West Broadway, New York City, and had there started up business under the name "HILDRETH, McCaul Co.," and had distributed a multitude of circulars so worded as to create the impression that his business was a successor to or a branch of the business of Hildreth & Segelken.

For the protection of our shippers and ourselves, we at once instructed our attorney to commence action to enjoin the said McCaul from using the name HILDRETH in any manner whatsoever in connection with his business. On the 10th day of July, 1901, Hon. David McAdam, Justice of the Supreme Court of the State of New York, after a full argument upon the merits, issued a peremptory injunction, of which the following is an extract:

"And it appearing that the plaintiffs have for a long time been and now are carrying on business under the style of 'Hildreth & Segelken,' and that the defendant has recently opened a business at 120–122 West Broadway, in the Borough of Manhattan, City of New York, and is carrying on the same under the style of 'Hildreth, McCaul Co.,' and that such act is in violation of the plaintiffs' rights, and that the commission or continuance thereof, during the pendency of this action will produce irreparable injury to the plaintiffs; it is

ORDERED that the defendant (Joseph M. McCaul) and each of his agents, servants and employees and all other persons acting under his authority and direction be, and he and they are hereby restrained and enjoined from showing, displaying or otherwise using during the pendency of this action in or upon any papers, devices, sign or signs, or otherwise, in the business conducted by the the defendant at No. 120–122 West Broadway, in the Borough of Manhattan, City of New York, or elsewhere the name of "Hildreth" separately or conjunctively with any other name, designation or description."

Outside of our desire in our own interests to protect the name which we have built by years of satisfactory dealings with our customers, we hastened to procure this injunction as soon as possible, to prevent our shippers from being misled into sending their goods to one who would make an attempt to gain their trade by such a trick and device.

With thanks for the many expressions of good-will we have received from our shippers concerning this attempt to trade under our name, we are, Sincerely yours,

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GENERAL ITEMS

A Fine Honey-Flow.

My bees were just able to make a living up to June 28; since then we have had a fine honey-flow from basswood and sumac. I will have 1000 sections from this flow, and at this date about one-half has been sold right at home. L. B. McDANIEL.

Athens Co., Ohio, July 22.

Bees Carrying Eggs Down.

Is this anyting new? Two weeks ago I noticed a colony of my bees, which had swarmed in the spring, had failed to provide themselves a queen, so, as they had a super on, I experimented by cutting a comb about a square inch containing eggs from another colony, and grafting it in one of the sections in the queenless colony's hive. Three days later I looked at the job, and the eggs were gone. To-day I looked among the brood-frames, and found a little patch of sealed brood about an inch square, and a queen-cell nearly ready to hatch. Clear ease of carrying brood (or eggs) down, isn't it?

Walker Co., Ala., July 13. R. V. Goss.

Best Honey-Year—Swarming.

This is the best honey-year we have had in northern New York for three years. There is lots of white clover and basswood. It has been almost impossible to stop swarming; when I returned them, the second night, they would come out again, so I lift up the back part of the hive and run them in that way, and they almost always stay. I have not had a swarm come out when put back in that manner. J. S. DEAN.

St. Lawrence Co., N. Y., July 11.

Very Dry in Indian Territory.

The bees here in Cherokee Nation are doing nothing on account of dry weather. Out of 48 colonies, spring count, I got 4 swarms. The bees loaf and cover the hives. I have raised the hives an inch from the bottom-board. If cotton-bloom has any honey there ought to be great quantities of surplus, as no swarming has made them very strong. So far this season we have had nothing for them to gather. If the cotton proves a failure, not half the bees will have enough to winter on. The hot winds are burning everything up. The fruit burns or bakes on the trees; corn and grass look as if a heavy frost had struck them. The leaves on the trees are falling like in October. The oldest people living never knew the rivers and streams so low, and many are dry. The Indians are "conjuring" and burning great bonfires and all the big drifts on the rivers, for rain. All over the Indian country there is almost a total failure of crops, and unless it rains in a very short time corn and grass will burn up.

R. N. CRAFTON.

Cherokee Nation, Ind. Ter., July 13.

A Report from Arizona.

On page 435 we read what Editor Root says about the heat of Arizona, which probably is correct, but I deaire to call attention to the fact that there is just 30 degrees difference in the effect of the heat between a damp and a dry atmosphere. At Chicago, my former home, or in most of the Northern States, if you wrap a thermometer with a damp cloth it will register about the same, but here it will drop 30 degrees. I am now making butter by keeping the milk in a cupboard outdoors, with a tank on top filled with water, which drips down on burlap on all sides; the air passing through the damp cloth lowers the temperature.

I have been running the extractor continually while the thermometer has been registering from 104 to 114 degrees for the past three weeks. The frames must be wired to extract when over 110 degrees.

The mesquite was only half a crop this year, and as last year was very dry the bee-keepers lost heavily in bees, by the queens dying from old age, and the drones having been killed early. The young queens failing to mate caused heavy losses, hence the honey crop this year must be short.

The bee-keepers held a meeting and decided not to ship any honey until it will bring what it ought to be worth. The banks advance money to all who must have cash to meet present needs. Eastern bee-keepers need not fear our demoralizing the price of honey. In the first place, we haven't more than half a crop; secondly, we propose to hold what we have until it brings a fair price.

Water for irrigation is now scarcer than was ever known, and the country is over-stocked with cattle, hence no more alfalfa bloom for this year, unless heavy rains come soon. B. A. HADSELL.

Maricopa Co., Ariz., July 18.

Poor Honey Season.

It is an awfully poor honey season here; I will get but little comb honey. It was too wet and cool until about the last of June and first of July, then it was too hot. We are now having a wet time, and our wheat is cut and unshocked. I have a large crop of wheat, but little hauled in. My hay and corn promise a large crop. L. A. HAMMOND.

Washington Co., Md., July 15.

Good Season for Honey.

So far it has been a good season for honey, plenty of rain and the most hot weather I remember ever seeing in one season—temperature from 100 to 106 in the shade a number of days during the past two weeks, yet the bees are storing honey very fast. I have about 300 pounds ready to take off, and shall commence to take off to-day.

I started in the spring with nine colonies. I now have 26 strong and good, and several colonies have cast two swarms each, and, besides, have filled from 24 to 36 one-pound sections. Several of the after-swarms have filled the hive and are working in the boxes. One old colony has cast three swarms, stored 36 pounds of section honey, and are now filling the second supers. S. B. SMITH.

Millelacs Co., Minn., July 22.

Management for Little or No Increase.

Of course, there will always be more or less weak colonies in the spring, but never rob the good ones of brood to build up the poor ones. Hive your apple-blossom swarms in the hives in which colonies have died during winter. The brood reared in these combs will be clover workers in late June and July.

Real swarming will usually begin before the full honey-flow, frequently two weeks, or even more. These swarms should be hived *in the weak* colonies, after removing and caging the queens in the weak colonies, and given plenty of room in the surplus chamber. The next day, between noon and 3 p.m., when most of the old bees are in the field, remove all queen-cells from the colony from which the swarm issued, smoke thoroughly, and turn the caged queen loose on the combs. The former weak colony is now one of the best in the yard, and the colony from which the swarm issued, having been supplied immediately with a laying queen, in two weeks' time, or less, is about as good as ever. Colonies so treated will rarely swarm again during the season; but don't forget to give plenty of surplus room.

Continue thus until all the colonies in the apiary are ready for a rush of honey at an hour's notice, or less. Then, if a slight increase in the number of colonies is desired, remove one-half the brood from the colony that swarms, fill up with comb foundation and rehive on the old stand, raise the front of the hive one-half inch for ventilation, and place the removed combs in a hive on a new

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Naperville, Ill., May 28, 1901.

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Months	July and August.		
Number of Queens	1	6	12
GOLDEN QUEENS.			
Untested	$ .75	$ 4.00	$ 7.00
Tested	1.25	6.50	10.00
Select Tested	2.00	9.00	16.00
Breeders	5.00		
HONEY QUEENS.			
Untested	$ .75	$4.00	$ 7.00
Tested	1.25	6.50	10.00
Select Tested	1.50	7.00	12.00

Safe arrival guaranteed. Descriptive price-list free. D. J. BLOCHER, Pearl City, Ill.
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One Comb Nucleus, (no Queen	1.00
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RED CLOVER QUEENS, the LONG-TONGUED ITALIANS, which left all RECORDS behind in GATHERING HONEY, $1 each; 6 for $5. SAFE ARRIVAL GUARANTEED.
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stand. The next colony that swarms treat in the same manner, and place the brood removed in a hive close beside that taken from the former hive. Give these nuclei ripe cells from your best colonies, and when both queens have laid their brood-chambers full, remove one queen and unite. This is now a first-class colony at once. The surplus queen should now take the place of the poorest one in the yard.

Should no increase be desired, hive as before, and set the brood one side. Hive the next swarm that issues also with this swarm by shaking the bees down a yard from the entrance, and catching the queen as she attempts to run in. Return her to the hive from which she came, and give her the extra brood from the other colony. Now place plenty of sections on the double colony, give plenty of ventilation, and you will be surprised at the honey stored in a brief time. Should the season warrant, in about one week contract No. 2 to six combs and put on sections.

Usually a heavy run of honey (here at least) coming on suddenly puts a stop to swarming. I have known more than one-half of my colonies to start cells on a light run of buckwheat honey, but the main crop coming with a rush has prevented a single swarm issuing.

If in a locality where there is a run of buckwheat, or other honey, rom the middle of August through September, do not let brood-rearing slacken after clover, but keep all queens busy, as only eggs laid before July 20 can be of much account for such a honey-flow; also, know approximately the date of commencement of the different honey-periods, and remember that it is work done by the queens five or more weeks previous, and not during the honey-flow, that gives the surplus, and that at the commencement of a honey-flow every cell in the brood-nest should contain a young bee, so that the surplus *has* to be stored in the supers.

Be ready for the season, and when your time is worth from five to ten or more dollars per day in the apiary, don't be caught anywhere else. WM. W. CASE.

Hunterdon Co., N. J., July 15.

Beginning Bee-Keeping Again.

The spring and winter of 1900 I lost all of my bees from some cause, and became discouraged and stopped all of my bee-papers except the "Old Reliable." I have again made a start in bees, buying two colonies in box-hives, and increased to six in movable-frame hives. I have 25 hives and fixtures that I made two years ago when the wreck came. We have an old-time honey season now, the first in four years. If it doesn't get too dry it will be a glorious honey-year. I took off some fine honey yesterday—the first in two years, and you may be sure, Mr. York, it tasted good. You can imagine a lover of nice clover honey, and don't think he was not thankful. F. MCBRIDE.

Hardin Co., Ohio, July 21.

Harvest Rich, But Short.

The honey harvest has been rich, but rather short. At the beginning of the white clover bloom the weather was cool and wet, and the flowers did not yield much nectar, but after a while it turned warm, and the bees made up for lost time. With the yield of honey the bees commenced to swarm. I have not had so much swarming for a long time. I have several large colonies, where two prime swarms went together. I put two of them on scales, and kept a record for several days. One was hived June 18 on empty combs in a 10-frame Langstroth hive, with two upper stories filled with nine combs each. On the morning of June 19 they weighed 91 pounds; June 20, 96 pounds, the day being cloudy and showery; June 21, clear and warm, 116½ pounds; June 22, 125½ pounds; June 23, 131 pounds.

The other was hived on empty frames with two surplus cases of 32 one-pound sections each, filled with comb foundation; weight on the morning of June 22, 111 pounds; June 23, 114 pounds; and June 24, 122 pounds.

I had 20 colonies to start with, but there was enough honey in the fields for 200 colonies to have done equally well. Last year I had 15 colonies, and it was all they could do to get one-half as much honey.

Since the close of the white clover harvest the bees have been working some on red clover, not alone the long-tongued, but also the short-tongued, the 5-banded and 3-banded, hybrids, and other bees. In fact, bees will work to some extent on red clover in this part of the country for a few days every year, if they have the right kind of weather.

Say, Mr. Editor, if we stretch the bees' tongues is there no danger that we may shorten their stings?

The weather is extremely hot and dry at present, the thermometer ranging here from 100 to 108 degrees in the shade. My bees are exposed to all the rays of the sun; there are no shade-trees over them. In ordinary warm weather they usually hang out, but this is too much for them, and during the heat of the day they all go into the hive and come out again as the day draws to a close. How they keep the combs from melting down is more than I can understand. My hives are painted white, are set on posts about 4 inches high, and the grass and weeds are kept down with a lawn-mower. The covers of my hives are the old style 7½-inch, telescoped caps, resting on cleats like the Dadant hive.

I have extracted 1460 pounds, with about 200 pounds more on the hives; and I took off 260 one-pound sections, with 120 more to take off as soon as the weather gets a little cooler.

FRED BECHLY.

Poweshiek Co., Iowa, July 22.

Question on "Jouncing" Bees.

I am quite taken with Mr. C. Davenport's "jouncing" out the bees (page 420). I find that a frame 9⅜x17⅜, solid full of honey, lifted from a fourth 10-inch story, is more than I can manage to shake the bees out of into the hive. Perhaps an old and experienced bee-keeper could. Then, a hive with 10 such frames has quite a tendency to "jounce" down on the ground, when lifted from its resting place, and to attempt to *carry* it to the honey-house—I would rather wheel 60 such frames in a cart. But there, to me, appear difficulties. I sometimes find a frame with just a little rim of honey over the top, and the balance of the frame full of unsealed brood and eggs, or perchance a nice queen-cell. I do not want to injure, nor do I want to put them through the extractor or "jounce;" while some of the frames in the same story are full of honey that ought to come out. Then, again, not using an excluder the queen may be in any story, and, of course, "jounced" out with the rest, or possibly carried to the honey-house. Isn't she liable to be lost, and not get back into the hive? In brushing them off she is of course brushed off with the rest into the hive, but when there are 2, 3 or 4 stories (and I would use still more if I could handle them so high), as each story is emptied it is set off on the ground to get at the one below—a frame I do not want to extract from is left in the hive. I have occasionally found the queen turn up missing. How would Mr. D. do in such cases?

This is my first experience with bees, and I am after all the information I can get on bees and their management. All I have learned of bees so far I have gotten from text-books and bee-papers. As to papers, something new is coming up in every paper, and I want to know all about them. I met a man a few days ago who said he had been keeping bees six years—said he had been taking a certain bee-paper, but had quit: intimating that the papers could not teach him anything. Where do you class such a man? A. J. BURNS.

San Diego Co., Calif., July 10.

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BY RETURN MAIL.

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We will mail one of the above queens alone for 75 cents; or 3 for $2.10.

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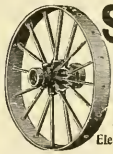

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A Queen-Rearing Agent.

If that is the proper term to apply to the man contemplated in J. H. Martin's scheme, he is strongly endorsed by Mrs. A. J. Barber in the Rocky Mountain Bee Journal. Referring to the difference in bees,, she says that last year one of her colonies produced 216 sections, two others 168 each, while the rest produced from nothing to 96 sections each, and continues:

Now it seems to me that if we had a kind of queen-rearing station somewhere, in charge of a competent person, that it would pay us to look out for such queens and send them to the place to breed queens from, thus securing stock that had been tested as to its working quality. I would gladly furnish two or three of my best queens every year for the sake of being able to get queens that were reared from a really well-tested stock. I mark my hives of the colonies that make an extra record every year, always expecting to rear a lot of queens "next year." Next year always finds me just a little busier getting a honey crop than I was the year before, so I am lucky if I get a dozen queens from any selected stock, after all. I would rather pay a good price for queens from stock that had had a practical test as honey-gatherers, than to have the kind of queens we usually get, given to me. If all my queens last year had been as good as the three best, I should have been several hundred dollars ahead. Can't we do something along this line? Have the honey-producers furnish stock that has had a practical test, and get somebody to take it far enough from common bees to keep them separate, and rear queens for us.

Staying Foundation with Wood-Splints.

B. F. Averill speaks very highly of these in Gleanings in Bee-Culture. His plan seems to be an improvement on that of Dr. Miller. He says there is no need to have the splints waxed, although Dr. Miller says when they were not waxed the bees tore them out. Mr. Averill says further:

These splints were 3-32 by 1-16, and ¼ inch longer than the inside depth of the frames. A saw-kerf is required in both top and bottom bars for the insertion of the ends of the splints. These should be ⅛ deep. No fastening is required if the sheets of foundation touch the top-bars the entire length. Otherwise the foundation bulges from the weight of a new swarm, and irregular, wavy combs are the result. Seven splints will answer to the frame with medium-brood foundation; for light-brood, eight splints would probably be required. With foundation wired from the mill, the foundation would still have to be attached to the frames; with the splints, the foundation is put in the frames, and securely stayed at the one operation. I could put in frames from 100 to 125 sheets per hour, with the splints, and I never have seen more perfect combs, all things considered. They stand extracting remarkably well. No cracks appear in the combs from this strain, as with horizontal wiring. I wrote you a few years ago about this matter, and again am prepared to say that you can advocate the general adoption of wood-splints for foundation brood-coombs, without hesitation as to their giving any dissatisfaction.

In putting in the splints, a board of suitable thickness is placed inside the frame. Put four splints in place, then lay on the sheets of foundation; then put the other splints in place, and roll them down with moderate pressure. Turn the frame and roll down the first splints; and this completes the job.

—THE—

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—BY—

PROF. A. J. COOK.

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(See page 459 American Bee Journal.)

Have longest tongues, handsome, gentle, great hustlers for honey, all tested queens, and sold at rate of $8 per dozen. By return mail.

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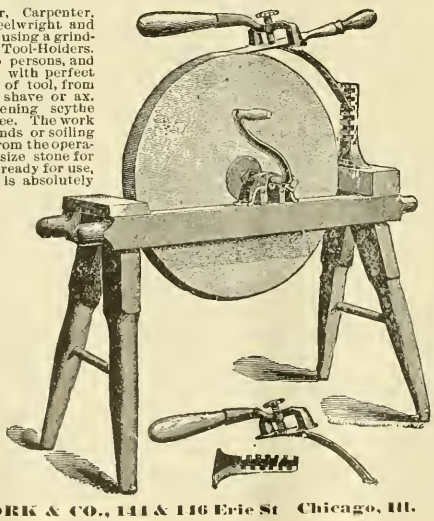

How to Use the Holder.

Directions.—The Tool is fastened securely in the Holder by a set-screw and can be ground to any desired bevel by inserting the arm of the Holder into a higher or lower notch of the standard. While turning the crank with the right hand, the left rests on an steadies the Holder; the Tool is moved to the right or left across the stone, or examined while grinding, as readily and in the same way as if held in the hands.

For grinding **Round-Edge Tools**, the holes in the standard are used instead of the notches.

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Why not get out a few of these splints, and give them a trial? I am convinced that they will meet with your approval.

Artificial Swarms.

The editor of the Rocky Mountain Bee Journal says:

The method we use and prefer is to place a new hive filled with foundation starters on the old stand; shake off about seven-eighths of the bees, including the queen; put on a super of sections filled with full sheets of foundation. If honey is coming in the bees will at once enter the super and work there clear through to the end of the flow. A queen-excluder should be placed between the super and the brood-chamber. The old hive containing the brood and remaining bees should be moved to a new stand and given a ripe cell or a laying queen. By this plan we get a rousing colony composed of all the field-bees and a large force of nurse-bees and comb-builders. If the division is made at the beginning of the flow, the old colony will hatch out bees enough in 15 days to be apparently as strong as ever. With us this plan of increase is preferable to natural swarming, as it can be attended to at just the right time to secure the best results.

Swarming, and Section Honey.

"Hello, Doolittle! Awful hot to-day. My hives are covered with bees hanging out, and I fear they are going to have a swarming-time just when basswood is at its best, as it will be in ten days now. What method do you use in order to keep the bees from swarming just when it is important to keep the hives crowded with bees in order to secure a good yield of section honey?"

"You are not the first one to ask such a question, Mr. Brown, for this is something bee-keepers have been asking during the past quarter of a century. If the apiarist has done what he could to get his hives full of brood at the proper time, he will have lots of bees in time for the honey harvest—hives overflowing with bees, as you say yours are now; and in order to be successful with them, all swarming should be done before the height of the season arrives."

"But I supposed you did not allow your bees to swarm, for, I am told, no large amount of section honey can be obtained if we let our bees swarm."

"In this you err, for the swarm and parent colony, if rightly managed, will do fully as much with the average bee-keeper, when just one swarm is allowed to issue, as could be gotten were they not allowed to swarm; and, besides, if we tried to keep them together by cutting out queen-cells, giving extra section-room, etc., we would, as a rule, only delay swarming, so it would come during the last half of the honey harvest, when it would be the most detrimental to our interests."

"But is there no such thing as non-swarming hives, used when working for section-honey?"

"Whenever I hear men talking about non-swarming hives in connection with producing section-honey, I feel quite a little like doubting their practical experience as apiarists."

"Well, what is *your* method, if you do not use non-swarming hives, and let your bees swarm at will?"

"All my early swarms are hived singly in a hive having but five frames in them, containing a starter of comb foundation about half an inch deep, and the sections are put on at time of hiving, as five frames give hardly room enough for a large prime swarm."

"What do you mean by those coming early?"

"Such as come out from 10 to 15 days before the main honey harvest, which, in this locality [Onondaga Co., N. Y.,] is generally from basswood."

"And do all of your colonies obey and swarm during those five or six days?"

"No; I do not have all swarms come out just as I might wish, but I have a different plan of management for those that come later, say from five to eight days before the harvest. These later ones are united, so that two are put in a hive filled with combs, the

section-boxos being put from one of the old colonies on the hive containing the united swarms. Then this old colony is put on a new stand, and the hive containing the two swarms put in its place, thus giving all the field-bees from this colony, in addition to the two swarms, which makes a colony which will do wonderful work during the honey harvest, a colony from which I take 100, 150, and even 200 one-pound sections of the choicest of honey, according as the season proves."

"But what about the queens? Do you let both go in with the double swarms?"

"No. The queens, having their wings clipped, give me the power of disposing of them as I think best, and so I let the queen go back with the colony which was moved to a new stand, and allow the one from the colony not moved to go with the united swarms. The moved colony losing not only the swarm, but also all of its field-bees, feels so poor that the queen-cells are torn down, and all idea of swarming is given up; but this colony soon picks up from the multitudinous emerging brood, so that often it will do quite good work in the sections."

"But will there not be after-swarms from the other parent colony?"

"The hive furnishing the queen for the doubled swarms is not disturbed in eight days, at which time the first young queen will have emerged from her cell, when the hive should be opened and all queen-cells destroyed, which will entirely prevent any attempt at second or after swarming."

"But if all have not swarmed up to within a day or two of the opening of the harvest, what do you do with them—keep on uniting two swarms?"

"No. All that have not swarmed at the commencement of the honey harvest are made to swarm in this manner: A hive is filled with frames of empty combs, or those partially or wholly full of honey, and placed upon the stand of one of the colonies which has not swarmed, and all the sections are taken off and placed thereon; then all the bees are shaken and brushed off their combs of brood and honey in front of this prepared hive. Thus we have the queen, bees, partly filled sections, etc., which make a colony ready for business at once. Previous to this a few nuclei should have been started, so that we may have the needed laying queens to use. Now take all the combs from which the bees were brushed except one, arrange them in the hive, carrying it to the stand of another colony which has not swarmed. Next take the comb of brood which was left out, and go to a nucleus, taking out the frame having the laying queen on it, and put the comb of brood in its place. Take the frame (bees, queen, and all) and set it in the place left vacant for it when arranging the combs of brood. Put on the sections, and when all is complete move the colony, not having swarmed, to a new stand, and set the prepared hive in its place. Thus we have a laying queen and enough of her own bees to protect her, combs full of brood, and all of the field or old bees from the removed colony, which make a colony that is ready to go into the sections in a very few days. The removed colony has simply lost the old or field bees, so as to stop the swarming impulse, and in a week will be ready for work in the sections again."

"That sounds good, and I believe I will try some of my colonies that way. But don't you think non-swarming would be desirable under any circumstances?"

"Yes, I certainly do, especially for out-apiaries. We have many of our best bee-keepers at work in the matter, and I fully expect that, before the year 1925 shall be ushered in, something of universal value will have been brought out for the benefit of the fraternity. But the above is as good as anything in sight at present for the home apiary, such as yours."—G. M. DOOLITTLE, in Gleanings in Bee-Culture.

ALBINO QUEENS If you want the most prolific Queens—If you want the gentlest Bees—If you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.
11A26t **J. D. GIVENS, LISBON, TEX.**

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BEE-BOOKS

SENT POSTPAID BY

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Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condensed treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. 30 cts.

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M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, July 18.—Choice white comb honey is arriving rather more freely and brings 15c. There is no accumulation at this writing, as receipts sell within a week after arriving, some of them on the same day. Amber grades bring about 12c. Extracted dull and slow of sale at anything over 5@5½c. Beeswax steady at 30c with good demand. R. A. BURNETT & Co.

CINCINNATI, May 17.—No demand for comb honey, also stock of it well exhausted. Extracted very dull; sales are more or less forced; lower prices from ½ to 1 cent per pound.
C. H. W. WEBER.

BOSTON, June 29.—There is practically no comb honey in our market, and owing to warm weather very little call for it. Are expecting some new comb early next month. Market for extracted dull, at 6½@7½c.
BLAKE, SCOTT & LEE.

OMAHA, May 1.—Comb honey, extra white, 24-frame cases, per case, $3.40; No. 1, $3.25; amber, $3.00. PEYCKE BROS.

NEW YORK, July 8—Our market is practically bare of comb honey, and demand good for white comb. Fancy stock sells readily at 15c; No. 1 white at from 13@14c, and amber at 11@12c. Extracted not in much demand, with plenty of supply; white, 6@6½c; light amber, 5½c; dark, 4½@5c. Beeswax firm at 29c.
HILDRETH & SEGELKEN.

ALBANY, N. Y., June 18.—Honey market is dull with no receipts or stocks and little demand. It is between seasons now. Prospect of good crop in this vicinity from what bees there are left, the greater portion having been killed by foul brood exterminators. H. R. WRIGHT.

DETROIT, July 18.—Fancy white, 15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c; dark and amber, 5@6c. Beeswax, 26c.
M. H. HUNT & SON.

BUFFALO, July 10.—No demand for honey yet unless a very small amount of fancy white at perhaps 15@16c. Some old lots still about, unsalable, almost, at 6, 8 and 10 cents. Beeswax, 22@28c. BATTERSON & Co.

KANSAS CITY, June 14.—Very little old honey on our market but what is damaged by being granulated. Sales are light at 15 cents for best grade No. 1 Colorado. Amber, 13c. Beeswax firm at 25@30c.
W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

SAN FRANCISCO, June 19.—White comb, 11½@12½ cents; amber, 9@10c; dark, 6@8 cents. Extracted, white, 5½@6½c; light amber, 4@4½c; amber, 3½@4c. Beeswax, 26@28c.

Market shows no quotable improvement, but there are no large quantities obtainable at the prices generally named by dealers. In a small way for especially desirable quantities, slightly higher prices than are quoted are being realized.

Wanted Fancy White Comb Honey in no-drip cases; also Extracted Honey. State price, delivered. We pay spot cash. FRED W. MUTH & Co., Front & Walnut Sts., Cincinnati, Ohio. Reference—German National Bank, Cincinnati.
28A17t Please mention the Bee Journal.

Wanted—Honey.

Car Lots or otherwise will pay highest market price, spot cash. Address, stating quantity, quality, and price desired at your station. Will send man to receive when lot is large enough to justify. THOS. C. STANLEY & SON,
31Atf FAIRFIELD, ILL.

Wanted.

Comb and Extracted Honey. Will buy your honey no matter what quantity. Mail sample of extracted, state quality of comb honey and price expected delivered in Cincinnati. I pay promptly on receipt of goods. Refer you to Brighton German Bank, this city.
C. H. W. WEBER,
214@-218 Central Ave., CINCINNATI, OHIO.
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We have a Large Stock on hand and can ship promptly.

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Untested, 75 cts.; Tested, $1.00: Select Tested, $1.50. Half dozen or larger lots as may be agreed on. Address,

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We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

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Sweet Clover (white).....	$ .70	$1.20	$2.75	$5.00
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Alsike Clover	.90	1.70	3.75	7.00
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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I ARISE

To say to the readers of the BEE JOURNAL that

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has concluded to sell QUEENS in their season during 1901, at the following prices:

1 Untested Queen ..$1.00
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1 select tested queen 1.50
3 " " Queens 4.00
Select Tested Queen, last year's rearing.2.50
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Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
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We guarantee satisfaction. ✻✻

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Because in 23 years there have not been any complaints, but thousands of compliments.

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Langstroth on the Honey-Bee—Revised,
The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

Please mention Bee Journal when writing.

More Bee-Keepers' Paradises....

E. R. Root has just returned from a 6,000-mile trip through some of the best bee-locations in the world, and has already begun his series of write-ups, accompanied with fine photos, in Gleanings in Bee-Culture. The following editorial appears Aug. 1, and will give something of an idea of what he will describe:

Some little time ago I promised to tell about the bee-keepers' paradise in Texas. I have this on the docket, and it will appear as I take up the line of my travels. But since running across that paradise I have run into two or three others. There is one west of the Rockies, in Colorado, that is not yet overstocked with bees or bee-keepers; another one in Central Idaho—in fact, I do not know but the whole State. These will be described in turn. The fact is, millions of capital are being invested in irrigation; irrigation means alfalfa; alfalfa means a paradise for bees. But I found all along my trip that alfalfa-growing preceded bee-keeping by two or three years, for it seems to take about that length of time before bee-keepers find these gold-mines that have been hitherto unoccupied.

If you are dissatisfied with your present location, and for financial reasons, or on account of health, will be compelled to leave, subscribe for Gleanings in Bee-Culture, and learn something about the great South and the great West. There are many locations in the West that are not yet occupied—splendid bee-locations. If you wish to learn about them, send 25 cents for a six-months' trial subscription, or $1.00 for one year and one untested Italian queen. Or, send $2.00 and we will send Gleanings one year and one of our celebrated Red Clover Queens.

THE A. I. ROOT CO., Medina, Ohio.
(U. S. A.)

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor

CHICAGO, ILL., AUGUST 15, 1901.

FORTY-FIRST YEAR
No. 33.

WEEKLY

APIARY OF H. W. CORNELISON, WASHBURN CO., WIS.

(See next page.)

THE AMERICAN BEE JOURNAL

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EDITORIAL STAFF.

GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

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The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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☞ If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Secor, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

HON. EUGENE SECOR, of Winnebago Co., Iowa, writing us July 25, said:

FRIEND YORK:—The past month has been unprecedentedly hot and dry. Bees loafing outside the hive to prevent combs melting.

The following lines express part of what we have endured in the last two weeks:

SOME JULY DAYS.

From out the burning east
Comes firy Sol;
At God's first call
He climbs the heavens to feast
On wilting corn and ripened grain,
Turned yellow ere its time for lack of rain.

The lolling cattle seek
The airy steep,
Or wade knee-deep
In nearest friendly creek;
The pastures, shorn and parched to brown,
In vain appeal for the rain to come down.

The hot earth shrinks and cracks
Beneath the glare,
And men shun care
As deer shun hunters' tracks.
And every beast on hill or plain
Is praying in animal language for rain.

Outside the hive the bees
Are forced to rest
To cool the nest,
And wait for nect'rous trees
And flowers to yield the dainty drop
Which heat and drouth have caused to dry up.

No woodland song is heard
From feathered throat—
His wonted note
Is dead within the bird;
He pants and seeks the spring in vain—
The fountain itself is thirsting for rain.

Thus wears the torrid day,
The round, red sun
His course has run,
And no man bids him stay,
For night is welcome since 'tis plain
Such days will never bring the longed-for rain.

EUGENE SECOR.

MR. ELLIS E. MASON and Miss Anna E. Hirth, both of Toledo, Ohio, were married July 24, 1901. Mr. Mason is a son of Dr. A. B. Mason, secretary of the National Bee-Keepers' Association.

May long life and much happiness be theirs.

MR. HARRY S. HOWE, who has been known as Coggshall's lightning operator, has been sick in Cuba, able to do almost nothing for two months, and the doctor says he will never be able to do any more hard work. The moral of which, says Editor Root, seems to be that it doesn't pay to work so hard. Let us earnestly hope that this time the doctor may be wrong in his prognosis.

MR. H. W. CORNELISON, of Washburn Co., Wis., has a very nice apiary, as is shown on the first page of this issue. The picture was taken from the northeast corner of the apiary looking to the southwest. The bees are located against the hillside, and the ground being rough Mr. C. has elevated some of the hives in order to level up and avoid washing by heavy rains. The row of posts in the middle row of hives were used to support poultry-netting. The trees in sight are butternuts, and his bee-supply house is at the right, obscured by the trees. The hill sloping to the north affords protection from strong south and southwest winds, and a tight board-fence extends along the north side of the apiary.

Mr. Cornelison calls it "Summit Apiary," as the town is situated on one of the highest points in the State. The lake on the shore of which the village is located was formerly called "Summit Lake." It is about 3 by 4 miles in size.

"THE HOME CIRCLE."—A. I. Root quotes approvingly a passage written for "The Home Circle" of this journal, and says:

"There is one special point in the above that is worth noting. In any contest requiring the fullest development, both of nerves and muscles, and especially alertness as well as strength, the young man who does not use tobacco will, as a rule, come out ahead; expert cyclists learned this a long time ago; and in every department of business where a clear head and a cool, ripe judgment are required, the boy or man who lets stimulants alone has the advantage. Long live 'The Home Circle' in the American Bee Journal; and may Prof. Cook be spared for many years to conduct it."

MRS. JUDGE E. G. BRADFORD, of Newcastle Co., Del., is making quite a success of bee-keeping. A local newspaper, dated Aug. 2, says she has an apiary of 20 colonies, and that from one colony she took 140 pounds of honey recently. The other colonies were also in good condition, and promised an equally fine yield. Continued success to the "Mrs. Judge."

MR. A. I. ROOT, no doubt to the delight of his old friends, perhaps forced into it by the absence of his son Ernest, has been giving considerable attention to the columns of Gleanings in Bee-Culture of late, and hence to the subject of bee-keeping. He seems to be skeptical as to the great difference in bees, and wants the experiment stations to tell us whether 40,000 bees in one hive gather more honey than 40,000 bees in another hive. If he will let cabbages and posies alone long enough to give continued attention to bees, he will probably find that there is as much difference in them as in folks.

THE NATIONAL ASSOCIATION of bee-keepers is still growing in membership. Since our last report we have received the following names, and one dollar each:

JOHN SCHUEMAN, JAS. POINDEXTER, H. H. MOE, F. M. BRANDENBURG, W. W. WESTCOTT.

General Manager Secor, in a letter dated Aug. 6, says that the Association membership list "will crowd 1000 before September." That's good. Now, if only a lot more bee-keepers would feel sufficient interest to send in their dollars for dues, we would be glad to announce their names in this column.

We started out to get 200 members before the Buffalo meeting, which convenes Sept. 10—less than a month left yet in which to send in names and dollars. Why can't we receive an average of five or six per day from now on, and thus insure having an even 1000 members of the National Bee-Keepers' Association? It ought to be the largest and best organization of bee-keepers in the world. It will be if all who ought to be interested will step up and enroll their names on its honorable list.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., AUGUST 15, 1901. No. 33.

Editorial.

Shipping Comb Honey.—As the list of readers of the American Bee Journal is constantly increasing by the addition of new and inexperienced bee-keepers, it seems almost necessary to mention some things at least annually. One of the "things" is that of preparing comb honey for shipment.

All comb honey should be put up (*we* think) either in 12 or 24 pound single-tier cases, the former showing three sections through the 3-inch glass front, and the latter showing four.

After placing the sections in the cases with a follower back of the last row, and newspaper crowded in back of the follower, to act as a cushion, then put say a dozen of the 12-pound cases, or nine of the 24-pound, into a large crate. First, however, there should be several inches of straw put in the bottom of the crate to act as springs or cushion under the cases of honey, to insure safe handling.

It is best, also, to have say 1x3 inch boards nailed edgewise along the top of each side of the crate, and extending six or eight inches beyond the ends, to be used as handles by two men to enable them to carry it between them when loading or unloading.

Some firms send out the following directions to shippers of honey:

1. Put your name on the *crate. No name on cases.*
2. Put a caution card on each crate.
3. Put the gross weight, tare, and net weight on the front of glass side of each case before packing the honey in crates.
4. Put the total weight of all cases on the upper side of the crate, so this can be found without opening the crate.
5. Mark each case with the grade.
6. Mark each crate with the grade.
7. Put only one grade in a case.
8. Put only one grade in a crate, if possible.

Comb honey put up as above, should go safely anywhere with almost any kind of handling. It pays to prepare it properly, for it profiteth the bee-keeper nothing to produce a lot of nice comb honey and then have it broken and smashed in shipping, on account of careless or inadequate preparation for safe transportation.

The Building of Drone-Comb.—The editor of the Bee-Keepers' Review deserves thanks for calling attention to an error in these columns which should not have occurred. He says;

Drone-comb is seldom built by a newly-hived swarm for the purpose of rearing drones. As a rule, such comb is used for store-comb the first season. I mention this as I see an editorial in the American Bee Journal in which one objection urged against the use of starters in the brood-nest is that drone-comb is built, and, "as fast as it is built it will be more or less filled with drone-brood—generally more—and that brood is a waste." If frames furnished with starters are placed in the brood-nest of a colony just before it is ready to swarm, these frames will almost surely be filled with drone-comb, and the cells filled with drone-brood; but when a swarm is hived upon starters, no drone-comb will be built so long as the queen keeps pace with the comb-builders; but let the queen get behind, or go back to fill the cells from which the bees are hatching in the center of the brood-nest, and comb is then built to store honey in, it is quite likely to be store or drone comb; but it is very seldom that it will be filled with drone-brood at the time that it is built. By sorting over the combs in the fall the drone-comb can be taken out and used after that in the supers. Contrary to the belief of some, I believe that, under such conditions, combs are built at a profit even if they are to be melted into wax.

Mr. Hutchinson is quite right in saying that drone-comb when built *by a swarm* will not at once be filled with brood. The question, aside from that, whether it is advisable to allow such comb to be built, afterward to be cut out by the bee-keeper, is an open one. For one who has plenty of time for the work, and who *will do it*, the plan may be all right. It should be understood that it is possible to have all combs worker-combs without the use of foundation at all, and there may be some exceptional cases where labor and time are in so much greater supply than money to buy foundation that it may be economy to dispense with the latter. Given a lot of combs containing patches of drone-comb of greater or less size, it is certainly paying work to cut out all the drone-comb and replace it with patches of worker-comb. It is well, however, even for one who thinks it advisable to dispense with foundation, to take some pains to limit the amount of drone-comb built. It is usually practicable to do this by taking advantage of the fact that Mr. Hutchinson mentions, that so long as the laying of the queen in a swarm keeps pace with the building of comb there will be no drone-comb. Hive a swarm on four or five frames, and little or no drone-comb will be built until these are filled. Then foundation or drawn combs may be given to fill the hive, or, if only starters, the drone-comb will be limited to these latter combs.

It is well to know, also, that nuclei or weak colonies may be depended upon almost surely to fill in holes with worker-comb, whereas if a patch of drone-comb is cut out of a brood-comb, and the comb returned to a full colony, the hole will be most likely to be filled again with drone-comb. The age of the queen makes a difference, the older the queen the greater the inclination to build drone-comb, even a very weak colony with an old queen sometimes insisting on building drone-comb.

But when all the trouble and inconvenience of mending combs are taken into account, the number is very large to those who think it cheaper in the long run to forestall the actions of the bees by filling the frames with worker foundation.

Utilizing Cappings.—Efforts have been made at different times to get bees to use wax in building combs, the wax being furnished by the bee-keeper. Success has not always attended the efforts. E. Puffy now reports in the French journal, Revue Internationale, that he has had excellent success. He gives back cappings to the bees. The secret of getting the bees to use them lies in the honey between the layers of the cappings. It is essential that the cappings be not washed. Taken just as they come from the uncapping-knife, they are packed into a ball from the size of a walnut to the size of one's head, and put in the hive beside the feeder. Combs are then built out rapidly.

The Honey Crop of 1901.—Editor Root has been scanning the field, and concludes that bee-keepers need not be in haste to dispose of their crop for fear of glut. Even if the season were better than last year, there were fewer bees to gather it this year, especially in Southern California, where probably three-fourths of the bees have died through neglect or starvation, their discouraged owners thinking they could not afford to continue feeding them year after year. Elsewhere in general there is a falling off in bees, and he thinks prices should not fall below those of last season.

A significant fact is that the A. I. Root Co., which is one of the largest buyers of honey in small lots, has had no more honey offered this year than last. The well-informed bee-keeper will be in no hurry to sell his honey for less than it is worth. Editor Root says:

Let me give one interesting fact in this connection. The Root Co. finds it can buy honey, from those who do not read bee-journals, at a lower figure than from those who take one or more and keep track of the market. It is not our rule to set prices. We ask for a sample and the prices asked; and it is a fact that the *fellow who thinks he can not afford to take a bee-journal will sell his honey enough lower in one season to pay for all the bee-journals for ten years.*

And yet there are people who say that bee-papers are of no value to them! Of course not, if they "know it all," or are too lazy or careless to read them and profit by the information which the papers furnish.

Contributed Articles.

Pear-Blight and Bees in California.

BY PROF. A. J. COOK.

THE relation of bees to the spread of pear-blight has become a very important question, not only in California, but everywhere in our country. For if there is any section where this microbe disease of the pear is not now in evidence, there is no knowing when it may break out. Thus a right or wrong position taken now, and defended and carried out, not only concerns California but every fruit-grower and every apiarist the country over.

The disease has existed in our country for many years. It was long a serious menace to pear-culture, in many sections, even before its nature and cause were known or even dreamed of. It usually commences early in the season, soon after the trees bloom, and first manifests itself in the dying back of the twigs. This continues till the whole tissue of the tree seems affected, as shown in the close, contracted bark on the trunk and main branches. The diseased tree is soon lost to usefulness, and is a centre for the spread of the disease to adjacent trees. All this was well known years ago. It was also known, as is generally true of microbe diseases, whether of plants or animals are the victims of their attack, that some kinds of pears and some trees seemed more susceptible to the encroachments of this foe than were others.

Some years ago Prof. Arthur, then, I think, connected with the Geneva, N. Y.. Experiment Station, determined that there was a bacterial affection. He not only identified the specific microbe, if I remember correctly, but he inoculated trees at will, and always produced the malady. Prof. Arthur then suggested—though as I remember he did not prove it—that bees and other nectar-loving insects very likely carried the germs from affected to healthy trees; and that this was a probable cause of the rapid spread of the evil. This conjecture seemed more than plausible, for the rapid spread seemed to occur just after the time of bloom, and it would seem very probable that the active, tender stigma would be a good seed-bed for the germs. If these latter were in the nectar or the pollen, it would certainly be easy to convey them from diseased bloom to those that are yet exempt.

Prof. Burrill, of the Illinois University, who was first to discover and describe the microbe, did much to give us more knowledge of these bacteria of the pear.

More recently, Prof. Milton B. Waite, of the Department of Agriculture (the same who demonstrated that many varieties of pears are sterile to their own pollen, and must be cross-pollinated to bear fruit, and who recommended with emphasis that the honey-bee, as the most sure agent in this important and necessary work, be kept in the near precincts of the apiary, in large numbers) has given attention to this pear bacillus, known to science as Bacillus amylovorus, Burrill. He discovered it working freely and multiplying rapidly in the nectar of the flowers, and even collected the germs from the tongues of the bees, and, from these, started artificial cultures of the bacillus. His experiments seemed to show that while the microbes could be carried easily by insect or other flower-loving animal, it was of such a nature that it could not be carried easily, if at all, by wind. By carefully conducted experiments, covering the flowers, Prof. Waite seemed to show that nectar-loving animals, and not the wind, were almost exclusively the agents to spread this disease.

Prof. Milton B. Waite is assistant chief of the Department of Vegetable Physiology and Pathology, of the Department of Agriculture. That he is a very able authority goes without saying. While it is desirable that others confirm the conclusions of Prof. Waite—for in these domains of minute life the problems are too intricate and too complicated to be easily settled—yet there seems little probability that he is wrong.

Prof. H. B. Pierce, government pathologist, stationed at Santa Ana, Calif., has in some measure confirmed Prof. Waite's conclusions. He has investigated the pear-blight of Banning and Hanford, Calif., and proved it to be the genuine pear-blight of the East, and has, by inoculation, produced the disease. He is a very able, careful and conscientious worker in this field, and his opinion is very valuable. He accepts Prof. Waite's conclusions, and thinks that the reason that pear-blight in California acts differently from that of the East, in often taking a fresh start late in the season, is owing to the fact that the pear-tree here often blooms twice in the year, and thus affords the ready opportunity for its spread late as well as early in the year.

It has been argued that Prof. Waite is, or may be, wrong in his conclusions, as young trees in the nursery, which from age could not have borne blossoms, still suffer and die from this disease. We know that buds as well as bloom are tender and active in the early spring just as they are pushing forth. They also are covered with a glue which the bees gather for their propolis. These should be examined for the microbes. It is quite likely that they share with the bloom in furnishing a nidus and nutrient for the germs, and by luring the bees may also be active instruments in the fatal spread of the germs.

WHAT SHALL WE DO, THEN?

The bee-keepers of the great San Joaquin Valley have agreed to remove their bees in the time of orchard-bloom. I am glad of this, for it shows that they are ready and willing to do the right thing. But is this the wise thing? There are myriads of other insects, as also many colonies of escaped bees, that can not be removed. Were it not true, the pears would not be pollinated, and, as Prof. Waite has also shown, these are necessary to a crop. Better the trees go. than to cumber the ground in fruitless state. These being present, the removal of the apiaries will not remove the evil. Their removal will soon demonstrate this when the fruit-men, who are so desirous to be fair and just as are the bee-keepers, will ask that the latter be left undisturbed.

While I feel sure that we need apiaries near large orchards to cross-pollinate the bloom properly, and thus aid to secure a full crop, I am just as sure that there are quite enough other little nectar-loving insects, to scatter the disease. Pollination must be wholesale; only a few inoculations per tree are necessary to work the havoc. Thus while removal of the bees will interfere with the crop, it will not materially check the spread of the dread disease.

I believe it will be a more sure remedy to try to breed pears that are immune, as Prof. Pierce is doing with the walnut. This will insure trees that are invulnerable, will leave the bee-keepers undisturbed, and will preserve to the orchardists the bees, which, in their grand work of cross-pollinating the bloom, are invaluable aids in all successful agriculture.

Los Angeles Co., Calif.

Rendering Combs—A Method of Doing It.

BY ADRIAN GETAZ.

DURING my thirteen or fourteen years of bee-keeping, I had my old combs, drone-comb cut out, combs (I must say to my shame) more or less eaten by the moths, and full of webs, etc., accumulate until something must be done. Some two or three years ago, I rendered by the ordinary process, all that could be advantageously treated so, and made comb-foundation out of it with the help of a home-made cement mold. A full description of the process was given at the time in the American Bee Journal.

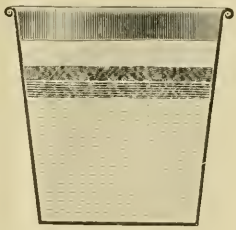
But I had yet some of the worst combs and some of the refuse of the melting of others. And here let me tell you that the moth-eaten combs are the very meanest thing to deal with that can be found in that line. I did not want to go into much expense, as the wax to be obtained was not worth very much; at least I thought so, but I got considerably more than I expected.

All the materials needed to construct the apparatus I used, were an old tin bucket, a piece of old tin to make an outside jacket to confine the heat of the oil-stove around the bucket, some scraps of wire and strong galvanized iron, a scrap or piece of wire netting, and some nails in place of rivets.

While on the subject, it may be well to say that wire nails heated red hot, and then slowly cooled, become soft enough to make excellent rivets. I had the oil-stove already.

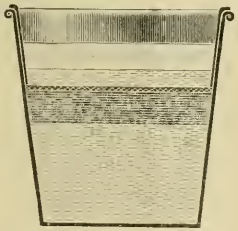
If you melt some combs in a receptacle of any kind with a quantity of water, and let it cool, and then investigate carefully, you will see that the wax has come entirely above the water, being lighter. The refuse, cocoons, moth-webs, etc., being somewhat lighter than water, form a mass

partly above the water-line, and partly below, something like this:



I said that below the water-line there would not be any wax. That is true only when by sufficient stirring and boiling the wax has had the chance, or rather the time, to disentangle itself entirely from the refuse. Now when the quantity of wax is considerably larger than the amount of refuse, all that needs be done is to take the cake out and scrape off the under part composed of wax and refuse mixed. The scrapings can be added to the next melting.

But when the amount of refuse is considerable, there is not enough wax to rise over the refuse, and the cake you take up is a mixture of refuse and wax. The problem was how to keep all the refuse under the water-line. I first melted the combs in the tin bucket with water enough to fill it about two-thirds, stirring and boiling long enough to disaggregate the combs entirely. I then put in the sieve made of wire-netting re-enforced by bands of galvanized iron, and fastened it there. Then I added enough boiling water to bring the wax entirely above the sieve, and let the whole boil long enough to give all the wax time to come through the netting. When cold it is something like this:



Some of the finest refuse came through the netting, but not enough to be objectionable.

One difficulty I met. I had to boil the whole thing quite a time in order to get all the wax to rise. After thinking about it, I concluded that by adding a considerable quantity of salt to the water the wax would rise much quicker. And it did.

Somebody may want to know how that can be. Why does the wax come on the top of the water? It is because the wax is comparatively lighter than water. That difference of weight is the *force* that *pushes* the wax above the water. That force amounts to about 3-100 of the actual weight. That is, if a vessel full of water contains 100 ounces of it, the same full of wax will contain about 97 ounces of wax. And as I said, that slight difference of weights—*three one-hundreths* only—is the *force* that pushes the wax above the water.

Now let us add, say one pound of salt to the gallon of water. The volume of the water will not be increased, but its weight will be increased by about 12 percent. That is, the same vessel which contained 100 ounces of pure water will now contain 112 ounces of salted water. The difference between the comparative weight of the water and the wax will now be 15-100 of its weight, instead of 3 100, that is, five times greater.

And the *force* that pushes the wax above the water will also increase in proportion, and be five times greater with the salted water.

Do you wonder now if the wax does actually rise faster when melted in salt water? Knox Co., Tenn.

The Premiums offered this week are well worth working for. Look at them.

Cheap Packages for Extracted Honey.

BY C. DAVENPORT.

In a previous article I mentioned that I expected to be able to use for retail trade, a package for extracted honey that, aside from the work of preparing it, would cost only about half a cent for a package holding a few pounds. At that time I did not intend to say anything more in regard to the matter until I had experimented with, or tried, the package in a larger way, for as yet the whole matter is in the experimental stage with me, as it was too late in the season, or rather, my extracted honey was nearly all sold last season before I thought about using these packages. Upon reflection, I have, however, decided to tell what I know in regard to the matter in the hope that it will lead others to experiment in this line.

Possibly I have already solved the most important part of the problem, or perhaps upon further trial in a larger way some serious defects may be found about it. As the reader has probably surmised, these packages are paper sacks, and probably many who read this know that a heavy grade of tough glazed manilla paper will hold, or resist the action of, honey almost as well as tin will, for how long a time I am unable to say, though the grade or kind of paper used would have much to do with this, for there are a good many kinds of paper called "manilla," many of which are entirely worthless for this purpose, and if the paper of which the sacks are made will not itself hold honey, I have found that these poor grades of glazed manilla paper are inferior for being waxed. to hold honey, to other grades or kinds of paper that are not glazed.

So far as I have gone at present I believe that if the sacks are to be waxed they are better if made out of tough, unglazed paper that is slightly porous. Such paper will, when waxed, resist the action of honey for some time; again, I am unable to say how long, but certainly long enough to serve for a retail package to the producer who delivers direct to the consumer.

Whether it can ever be perfected so that it will answer for the retail grocery trade, I am unable to say. but I have hopes that it will; but whether this occurs or not, these packages will, in the near future, in my opinion, be used largely, and answer a most useful purpose to producers who retail in small amounts, and have, as I have, a large class of customers who are so frugal and economical that they will not buy a glass or tin package, and seldom return one lent them.

Whether paraffine would answer in place of wax is another thing I do not know, for I had none on hand last fall. If it would, besides being cheaper its color would make a more attractive and inviting looking package, though a waxed sack is not defective in this respect, and it is a clean sanitary package. Perhaps a mixture of, or preparation of, both wax and paraffine might answer better than either alone. A small amount of rosin might also be a benefit. There is room for much experiment in this respect, and I hope that all others who experiment in this or any other way in regard to the matter will report results, whether favorable or otherwise, for it would no doubt be of interest to many besides myself. I do not have the time to do but a very small amount of the experiment work about many things in regard to our pursuit that I should very much like to do, but I shall this season try these sacks in a larger way than I did last year. I have little doubt but what they will, with me, solve a perplexing problem.

When using them, if the honey is delivered, all that would be necessary to insure their safe carrying would be to pack, or lay, the filled sacks in a large tin can or case, that has a tight cover to exclude dust. The sacks can be tied up and then wrapped and tied up in another piece of paper, on which has been written the number of pounds, and who the package is for. A large number of these sacks could be laid in one large can, and handed out as handily as any package. But with customers that come to the apiary it would not do simply to tie a sack up in paper this way, for in many cases, unless care was used, it would be torn, or get a hole in it, and allow the honey to escape. This, besides raising a howl of disgust and protest from customers, would not answer, for we would surely lose trade if we furnished a package that failed to carry safely.

To overcome this would be quite easy. I have not tried it except in a limited way, but I have no fears whatever that this part of the system will work all right in every way. All that is necessary is to make an outer package or covering from strong cardboard, or what is called "building paper" is what I used; this is about like cardboard or pasteboard, but instead of being stiff or brittle like the

former, it is pliable and can be bent in any shape without breaking. This was cut into shape on about the same principle as all folding cardboard boxes, only one side has to be glued. The ends are cut to fold together, and are held in place after the sack of honey is put in, by strings around the packages. This outer covering or case makes it practically as safe to carry honey in a paper sack as in a tin pail or stone jar—perhaps safer, for with either of the latter the honey is lost if it is tipped over.

Probably most of those who read my first article on this subject smiled incredibly when I said that possibly extracted honey might be shipped in sacks, but I have not much doubt but what it can be done. What will you give me, Mr. Editor, for honey shipped in sacks, I to guarantee that it reaches you in good condition, without leakage occuring for one month after you receive it? Make me a good offer. In after years, if most of the extracted honey should be shipped this way, it might be quite an honor for you to be able to say that you were the first one to buy in sacks; and, for me, that I was the first to ship it in this form. If I had only thought last fall when I had the honey in those large sacks, to find out how much of a jar and rough handling they would stand, I should know something more definite about whether it could be shipped safely in sacks. It would have been an easy matter to find out what a sack could stand, by taking one and raising it up and dropping it down at different heights inside a large can or barrel until it would burst. Perhaps those would have stood as much in this line as tin would—possibly more. Or, if those I had in use were defective in this respect, it might be, and is, by no means improbable that sacks might be made of material that would stand as much, or more, strain and rough handling than a 60-pound tin can. Then all that would be necessary to insure safe shipment would be to use wooden cases, the same as with tins, and pack two or three inches of clean straw or hay all around between the case and sack.

The object in using sacks, it is probably needless for me to say, would be the very great saving in the cost of the package. Probably at least two dozen 60-pound sacks could be sold for the price of one 60-pound tin can. And the saving in freight would also be great. The empty sacks could be rolled up and shipped to the producer, and the freight on enough to hold many thousand pounds would be but a few cents. And if one did not wish to make his own cases, they could be shipped in the flat for less than half what they can be nailed up.

What about candying? some may ask. In regard to this I have only space enough left to say that I have liquefied candied honey in paper sacks.

Southern Minnesota.

[We are not quite ready yet to order shipments of honey in paper sacks, and thus get honor unto ourselves! But some day it may be just the thing.—EDITOR.]

(Continued from page 487.)

No. 5.—Some Reminiscences of an Old Bee-Keeper.

BY THADDEUS SMITH.

I HAVE been in the habit of making such frequent visits to "My Old Kentucky Home" that I hardly feel that I have lost my citizenship there, and I have not forgotten or lost my interest in her citizens, especially those who may be classed as belonging to a former generation; and as I purpose to notice some cotemporary bee-keepers of 30 years ago, in whom I felt most interest, it is but natural that I should call up the Kentuckians first.

My neighbors, Dr. John Dillard, and Mr. D. Burbank, of Lexington, and Prof. R. A. Broadhurst, principal of the Kentucky Female Orphan School at Midway, were intelligent, enthusiastic bee-keepers, well informed in the science as far as it was then developed; and so was Mr. Nesbit, of Cynthiana, and Mr. G. B. Long, of Hopkinsville. But these did not keep themselves very prominent before the bee-keeping public by frequent communication to the bee-papers, because they had no "ax to grind" in the sale of patent hives or Italian queens.

The most clever writer and original inventor of that State was Mr. D. L. Adair, of Hawsville, who contributed many interesting and instructive articles to the columns of the old American Bee Journal when published in Washington, D. C. Mr. Adair had originality with a bright, investigating mind, well stored, and a fluent, agreeable way of expressing his ideas; but some of his ideas and conclusions were peculiar. For instance, he held that bees could live, if not indefinitely, yet for a long time, without admission of *fresh* air to their compartment—that they could be sealed up tight in a box, and they would live and remain perfectly quiet without injury for a number of days. I do not remember the limit of time he gave to their confinement, or how long they would continue satisfied thus excluded from *fresh air*. It was a singular position to take, yet from the facts he gave and his plausible reasoning, one could hardly dissent from his conclusions. I would like to know if others have observed this fact, or if the theory has ever been thoroughly tested and confirmed, or exploded.

Mr. Adair was the inventor of an original controllable movable-comb hive, quite different in principle from Mr. Langstroth's hive, or from the hives of Mr. Langstroth' many imitators. His hive was composed of a number of sections, put together side by side and held in place by a simple and ingenious device. These sections were made of thin stuff, just as wide as the width of a comb and the space between combs together, and a triangular comb-guide placed in each, and when put together formed a box, or the hive proper—using boards for the ends. The sections were about the size of a Langstroth frame, being somewhat deeper and shorter, and could be taken apart easily, and each comb separated from the other and examined—the size of the hive depending upon the number of sections used. Sections were placed at each end for surplus, either for extracting or for comb honey in sections; and thus I think originated the "long ideal hive," or the long hive with side-storing surplus arrangement. As this section hive was made of thin material, an outer receptacle had to be provided for its protection; and these were made of wood, brick, stone or cement, of such a size as would hold the section hive with its surplus receptacles, that were shoved into it through a door in the rear, and had to be withdrawn for examination.

I once made an Adair hive. It looked all right, but somehow I never had the courage to put a swarm of bees into it. It remained in my honey-room for a number of years, and I kept thinking I would try a colony in it, but I never did. In comparison with the Langstroth-Simplicity, and with Smith's "Quinqueplexal-Duplex-Combination, etc., hive," it seemed too much bother.

I think Mr. Adair really believed, at that time, that his hive possessed advantages over the Langstroth, and other frame hives. Hundreds of his hives were used in Kentucky and Tennessee, but I doubt if any one uses them now by preference.

So far as I know, Mr. Adair should have the credit of inventor, or original user, of the section honey-box. He used sections for surplus both on the sides and top of his brood-chamber. His section-boxes, no doubt, differed in size and finish from the beautiful, polished white-wood sections now in use, but they involved the same principle, and it was probably from them that the sections of to-day were evolved.

Mr. Will R. King, of Franklin, Ky., was a hive patentee, or a vender of a patent hive, that he called "The Triumph Hive," and an Italian queen-breeder. He took every opportunity to call attention to and advertise his wares through the reading columns of the American Bee Journal, with which he claims that he has succeeded in having queens fertilized in confinement, and the general way he had of pushing his business, made me strongly suspect him of being a Yankee. However, I do not believe he was any kin to H. A. King, of New York, the hive-man who disputed and contested Mr. Langstroth's claims so strenuously, and, as some thought, not honorably.

As far back as 1872, W. R. King claimed that he had succeeded in having queens fertilized in confinement, by having the queen and drones fly in a tent, excluding all workers from it, and he gave a detailed account of the construction of his tent and process in the old American Bee Journal of that date. The plan and principle involved is the same as that of Mr. Davette, that has lately been resurrected and given a prominent place in several bee-papers. The point strongly emphasized by Mr. King was that *all worker-bees should be kept out of the tent*, and the queen and drones must never have been outside their hive before set to flying in the tent. He accomplished this in a different way from the plan of Mr. Davette, and I should judge that Mr. Davette's way is the best, but they both acted on the same principle—"*keep the workers out.*"

Thirty years ago, when the country was full of black bees and comparatively few Italians, there was great difficulty in getting Italian queens purely mated, and the subject of controlling fertilization was an important one for

the numerous queen-breeders that then sprung up all over the country, and hence many were led to experiment to get queens mated within the hive, or in some other enclosure where they could meet only selected drones. A number of persons claimed that they had succeeded in getting queens mated within the hive, and also in a tent with just such drones as they selected. But the more reliable apiarian teachers did not come forward to endorse these claims, and the general bee-keeping public were slow to believe that the thing had ever been done. As the Italians increased in the country, and the blacks decreased in proportion, there was not so much danger of queens mating with black drones, and as to prevent this was then the only object of seeking fertilization in confinement, the subject was not considered of so much importance. Although Mr. King claimed success with his tent, he said as far back as 1872, that he would not use his tent the next year, as the place where he intended to rear queens had but a few colonies of black bees in the neighborhood, and these few he intended to Italianize, and he would not consider it necessary to take his tent with him.

Thus the matter has been suffered to lie dormant these many years, until Mr. Hutchinson heard of Mr. Davette and his tent, and published an account of it a few months ago. It is now considered that the Italian bee itself, and probably all other races of bees, can be improved in their honey-getting qualities, and in their dispositions, by select breeding; and it is claimed that much has already been done in improvement of the Italians by selection of queens only, and it is believed that much greater improvements could be made if the drones could be selected also. Hence the new interest now found in this old subject of fertilizing queens in confinement with select drones. It is to be hoped that the thing will be fully and fairly tested, and all doubt removed from the possibility, or else the whole thing condemned as impracticable.

Mr. R. M. Argo was another intelligent Kentucky bee-keeper, who sometimes gave us the benefit of his knowledge through the columns of the American Bee Journal; but I have not seen his name or that of any of the others in the papers lately, and I don't know how many of them are still alive.

(The End).

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Requeening an Apiary Now.

Would it be of any use to requeen my colonies at this time? Would they produce any more honey? Some of the old colonies are loafing around in a listless manner, while the new swarms are working full time? PENN.

ANSWER.—It depends upon circumstances. If you requeen with better stock it would be a good thing. It is very advisable for you to keep a close record of the work of your colonies, and try to have queens in all the colonies from those that have done the best work.

Getting Bees Into the Sections—Uniting Colonies, Etc.

1. How late in the summer do bees build comb? Is there any particular time for them to cease building?

2. I took some honey from some of my colonies in June, and they have not replaced the comb or rebuilt anything. What is the reason?

3. My bees don't seem to take to the supers that have one-pound sections in them, where they had starters, etc. Would it be any inducement to remove everything above the brood-chamber but the super with the one-pound sections? or would a super of shallow frames filled with honey and merely left on the hive till wanted for use, cause the bees to go into the pound sections to work, giving them that much more to cover and care for?

4. Would it be a practical and successful way of uniting two weak colonies, each having a queen, to put one hive over the other, placing a piece of wire netting between for a day or night, and then let them regulate which queen they shall retain?

5. Is there any way of telling when a colony has lost its queen and is growing weak, without going into the hive to examine?

6. Can the presence of the moth-worms be known without opening the hive to examine for them?

MISSISSIPPI.

ANSWERS.—1. The most of the building is done during harvest-time, but there is no particular time for them to begin or quit. They will build comb whenever needed, in rare cases even in quite cool weather.

2. The probability is that no honey was coming in, and they felt no necessity for filling the vacancy.

3. What you say in the previous question makes it probable that no honey was coming in, in which case they would not do anything in sections. If there was a super of shallow frames on top, those frames being partly filled with honey, the bees would not so readily enter the sections unless they got more honey than they could easily store in the shallow frames. In the same way, if a super of sections partly filled were on the hive, they would not touch another super of empty sections But if you remove the super of shallow frames, the bees will begin on the empty sections sooner than if the frames had not previously been there, always providing any honey is coming in.

4. It will be likely to work all right, but you will be safer against fighting if you remove one of the queens a day or two in advance. There must be an entrance to both upper and lower hives.

5. Not for certain.

6. Not certainly. If you see worms dragged out, you will know, but you don't always see that.

Late Wax-Secretion and Laying—Killing Drones.

1. How late in the fall can bees make wax?

2. How late does the queen lay eggs?

3. Is it profitable to kill the drones now, when we want no more swarms? ILLINOIS.

ANSWERS.—1. Very late if it is necessary, although there is generally no occasion for it. I think bees might be forced to secrete wax in the middle of winter.

2. The time varies greatly. A queen may stop laying in September, or she may continue till frost. Much depends upon the yield of nectar. Sometimes queens continue to lay although no brood is reared. It is a more common thing than is generally supposed, to find eggs and sealed brood in the hive, but no unsealed brood. The queen keeps on laying, but the bees do not take care of the eggs; perhaps eat them. My place is in the region that suffered so terribly from the July drouth, and brood-rearing was almost entirely suspended, although the queens continued to lay. In some hives were found neither sealed nor unsealed brood, although eggs were always present. If I had been a better bee-keeper, I suppose I would have fed to keep up brood-rearing (I did later on), but I had never had such an experience before, and was expecting a change every day.

3. Yes.

A Beginner's Bunch of Questions.

1. I use the 8-frame hive. I have only eight colonies of bees, having bought five last spring, all Italians. I had two hybrid colonies. Now there are four hybrids. Is there any way to keep them from mixing or becoming hybrids?

2. Can I breed them back and make them all Italians again? If so, how?

3. I haven't had any swarms issue yet. They are all strong, and working well. What is the cause of their not swarming?

4. What is the best time of day to "rob" the bees?

5. I would like to increase my colonies to 15 or 20. As they will not swarm, what and how shall I do? Is it too late now to transfer? The cotton-bloom here is our main honey crop.

6. What is the best way to catch the queen and handle her without hurting her?

7. How many colonies can one man attend to?

8. How much honey is it expected that a strong colony will store in one season? TEXAS.

ANSWERS.—1. So long as there are black or hybrid bees within two or three miles of you, the likelihood is that most

of your colonies will be of mixed blood. Rear from pure stock each year, and eventually you may work out the black blood.

2. As in the previous answer, your most hopeful plan is to breed your queens from pure stock, and when you run out of pure stock get a pure queen. A careful study of your text-book may be of some help.

3. Hard to tell. Possibly they are not getting enough honey.

4. Right in the heat of the day, when the bees are busy at work. If there is danger of robbing, however, it may be better to take away the honey in the after part of the day, so that darkness may cover any tendency to robbing.

6. It is difficult to advise just what is the best way for you. If you will carefully study your text-book you will probably be better able to judge for yourself. One way is to take all but one frame from the hive and put them in a new hive on a new stand. Leave the queen on the old stand. Let all the adhering bees be taken with about half the frames, and shake off into the old hive the bees from the other half. It is not too late to transfer.

6. Catch her by the wings or by the thorax (what, perhaps, you would call the shoulder)—never by the back part or abdomen.

7. Probably five colonies are as many as would be wise for you to have till you gain some experience. An experienced bee-keeper may care for 100 colonies or more.

8. Very often more is expected than realized. There is no definite amount. It may run from nothing to 200 pounds or more. If you average 50 pounds you need not complain.

Importance of Pure Drones.

Is it not a fact that our bees ought to have three distinct bands to show their purity? If so, I want to know why our drones from the same mother are not purely marked? While bees and queens are purely marked our drones are not. What I mean by that is this: We have some drones that are black, and some of these are yellow-banded, which I believe shows impurity. If this is not impurity, I do not know what you call it. In breeding bees I do think the drones are the ones we ought to be particular about. I think if we can get our bees, queens and drones all with the same marking, we will have better bees and more honey, as my experience of about 20 years with bees has shown. TEXAS.

ANSWER.—You are right in thinking that there should be uniform markings in the drones of pure stock, and also that it is just as important to have good drones as good queens to breed from. One reason, and perhaps the only reason, that so little attention is paid to the drones, is the difficulty of controlling the mating. But that is not a sufficient excuse for neglecting what can be done in the way of suppressing poor drones and encouraging good ones.

Replacing a Drone-Layer.

I had a colony of bees in my apiary with crooked combs, and I cut them out and straightened them. The bees had swarmed some time before. I found that the capped brood was raised, and also some of the cells had two and three eggs, and some had none, so I looked up the queen and stuck a pin through her, and then gave them some brood from another hive for rearing a queen. Was it right to give them the brood at that time, or should I have waited some time and then cut out queen-cells, and then give them fresh brood? IDAHO.

ANSWER.—It is not likely that you would have gained anything by delay, but would have lost. It would have been just so much loss of time, the colony meanwhile becoming weaker, the bees older and less fitted for rearing a young queen.

Brood-Chamber Crowded With Honey, Etc.

1. I have a colony of bees whose queen was old, and let them store honey in the brood-nest. I have requeened, but the new queen has little or no place to lay in. How can I make the bees remove the honey from the brood-nest?

2. Has not the Danzenbaker reversible frame this advantage, that as the bees will not allow honey at the bottom of the frame, when you reverse it you force them to store it in the supers?

3. Can you tell me if we have a fall flow in Minnesota? There are no buckwheat fields near.

4. My bees worked on lilacs this spring. It this usual? MINNESOTA.

ANSWERS.—1. You can hasten the matter by uncapping the honey where you want the queen to lay. All the better if you do not make a very smooth job of it. One way is to take a saw, or a piece of a saw-blade, and scrape the surface.

2. At one time much was made of this feature of the Danzy and other reversible frames. I don't know whether it is now much valued.

3. I think in most parts of Minnesota there is more or less of a fall flow.

4. I think it is not unusual for bees to work on lilacs, but the number of lilac bushes is never large enough to make the plant an important honey-plant.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses. By E. E. HASTY, Sta. B Rural, Toledo, O.

GARDENS FOR THE CHILDREN.

Anent page 409, where Prof. Cook talks of a garden for each child, there are two children at the home in which I live. They were fond of planting things, but seemed to manifest almost idiocy as to the details of the matter. Surely, I thought, it would be no use to give them gardens. Well, this summer their father took it into his head to do just that. And he didn't give them little and worthless bits, either, but large plots of very fertile ground. The result is that with a very moderate amount of advice and assistance they are having *some* success. Their crop will not total much in money; but when we come to consider things worth more than money, no equal area of the farm will produce so much. Had the plots been smaller, so as not to oversize the amount of hoeing they enjoy doing, it would have been a little better.

A HOUSE-CELLAR FOR BEES.

Some have doubted whether a house-cellar, with footsteps and children's play immediately over the bees, could be anything else than a very poor place to winter bees in. As a counterblast to this it is interesting to see that the Gleanings cellar, with machinery overhead, proved a first-rate place. The fact seems to be that bees will get used to almost anything if it is only experienced hourly or very frequently; but when noise or jar occur irregularly, and not much oftener than once a week, then they are disturbed and injured. Page 413.

QUEEN FERTILIZING EGGS.

F. Greiner may be right, page 420, that the queen fertilizes eggs, or omits to do so, entirely without volition. Something other than space, or curvature of the queen's body, may deftly produce effects. I opine, however, that a "straw vote" would show him badly in the minority.

"JOUNCING" EXTRACTING-SUPERS.

I don't want to make sport of any manipulation which a practical brother finds to succeed even tolerably well. If I did I might try to be funny over Mr. Davenport's method of jouncing out the bees of an extracting-super. I'll be respectful; but I'll wait till a lot more of the brothers find it a success before I jounce. Page 420.

SWARMS GOING BACK.

Tell Dr. Miller, page 425, that among Ohio bees more than two swarms go back to the old hive after hiving, for each 98 that go to the woods. Of unmixed swarms, with laying queens, *and the queen all right*, perhaps his proportion would answer. Swarming and going back into the old hive again has been abnormally in fashion the present year—going back before clustering, and going back after clustering, and going back during attempt to hive, and going back after hiving—all sorts of going back. When bees from different hives get mixed in swarming (a very common thing in a large apiary with swarm-fever raging) the queen or queens will often be balled—at least half the time if the bees are light of honey—which is also a common thing, at least in this yard. The little ball of bees and queen often falls from the cluster to the

ground, and is liable to be left unnoticed. Then, of course, the queenless bees go home, either before or after hiving. Sometimes the ball is formed after hiving, or deposited with the rest of the bees at the door of the hive, and carelessly left there when they run in. In these cases also the bees go back to the old hive—never to the woods, I think. While we are on the subject of swarming let me "swat" another old and popular fallacy—the idea that bees load up with honey preparatory to starting out. They go just as they happen to be, I am pretty well convinced. A swarm imprisoned will sometimes quickly begin to die of starvation. On the other hand, after three days and two nights of imprisonment, they will often be found with a good piece of comb built and honey in it. This imprisonment trick is a hobby of mine, and thus I know.

WINTERING OF DIFFERENT STRAINS OF BEES.

I suspect it is easy to be mistaken when we say that one kind of bees winters better than another. In a mild climate, however, which may happen nevertheless to be a climate in which staying quietly indoors is much more profitable than hustling around, it is reasonable to expect that blacks might winter better than Italians. But, Mr. Whitcomb, mightn't a poor and lazy strain of Italians idle and prosper just as well as blacks could do? Might not prosper as well next June, eh? Then I guess you're pretty much altogether right. Your fourth point is hardly important enough to rank with such important things as the first three points comprise. Page 428.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

STRAWS POINT THE WIND.

We all court or desire popularity. Few of us get it in as generous proportions as we would desire. We all have among our friends those whom we not only love and admire, but who are general favorites. Everybody is quick to take them up, and even more slow to let them slide out of their social circle. I have often thought, and as frequently said, that no fortune could be justly said to out-rank that of having for our life's work that which we enjoyed most to do. It is almost as beneficent and helpful to be attended in our life-journey by those who admire, respect and love us, and who are ready to trust us to the full, for they know us, and the knowledge has begotten faith. I know of no single thing that gives such full satisfaction as the sure thought that those who know us best believe in us. There is no show of wavering in their faith.

We all have known public men whose presence among their neighbors and friends is sure to bring loud acclaim. They are ever greeted by their constituents with loud and heartfelt cheers. All this is most grateful to him who is so happy as to receive it, and must be a most potent influence, not only in making the life more pleasurable but also in causing it to yield richer and more abundant fruit.

So great a factor in the happiness and success of our lives is well-earned popularity, that we are all wise to study the ways and lives of our most esteemed friends, that we may, if possible, discover what attracts and wins, and then may strive with unflagging effort to crown our own lives with like virtues. Camp-life furnishes most excellent opportunity for such study. The "straws which point the wind" are ever in evidence.

We are in camp. Many other campers are near neighbors. The meals are to be provided; the wood chopped; the dishes washed; the camp to be kept neat and tidy; not only our friends but others who have not such evident claim on us are, or ought to be, entertained. The books brought to camp are very entertaining; the many magazines abound with fascinating recitals or stories; special friends are so attractive; how much there is to make selfishness assertive, how many straws will show the trend of character. Here is where the one who has grown into a life of thoughtfulness for others shines forth as the noonday sun. Such a one takes no heed to find the exact bounds of his allotted tasks, but is ever reaching out with helpful hand to lessen the burdens of every other one. He is quick to lay aside the entrancing story to help some other in a wearying task, or to entertain some older person, or, possibly, some visitor who has come to the camp for a recreation which the home camp has failed to furnish.

Some one in camp has been off on a long tramp, climbing the ever-alluring mountains, or seeking some pool where the trout are more quick to bite. He returns weary, and, oh! so hungry. Yet his it is to see that the meal is prepared, or the wood chopped, or the dishes washed. The dragging step and tell-tale pallor are quickly noted, and he finds his work is snatched from his tired hands, by those more than eager and willing to do it for him. This straw of thoughtful unselfishness is a very jumbo, and tells a whole chapter of character trend, which ever charms, wins, and sweetens. If one ever gets just "dead tired" and "dead gone" with hunger, it is on the long tramps along the mountain streams of the deep, wooded canyons, or climbing the steep mountains, where lured on by beauty and awful grandeur the tramp carries us often away beyond our strength, and yet we must retrace our whole rugged journey before either rest or food—possibly before water—can bring the longed-for refreshment.

Here is where the Mark Tapleys shine out.

Here is another colossal straw. Some so thoroughly hold themselves in fullest control, that they "burn all their own smoke." Tired, used up, every bone and joint crying out with the hard ache of sorest exhaustion, yet we hear not a word of murmur; indeed, they have still cheer and sunshine for others who seemingly are more weary than are they. Surely, these are heroes that see no battle-field, and whose praises are all unsung on History's page. Yet camp-life shows their status. "Straws point the wind."

"OLD BALDY" (San Antonia Mountain).

Where is it? and what? It is one of the three highest peaks of the Southern California mountains. It reaches up 10,000 feet, and lies 23 miles north from Claremont. It is 16 miles west of our camp, which is something over 3,000 feet above the sea-level. Seven of us scaled it on Monday last, three of whom were ladies. Horses or mules, and one pack-mule, carried us and our belongings 12 of the 16 miles. Then we must walk and carry our food and blankets, for we must sleep that night on the very crown of the lofty summit. What a climb—4000 feet, or 1000 feet to the mile! Two and one-half miles more on the very ridge-pole of a great roof-like mass of granite—a mere narrow path often hardly a foot wide, and steeper on each side than steepest roofs; often almost perpendicular on one side, reaching down more than 1000 feet—more than one-fifth of a mile. Often this path stretched upward as fast as onward, and yet our party flinched not, but all slept that night on the very crest of this grand mountain peak. Only one took to hands and knees, and she but once. But more than one wondered if they could do it. And almost all drew long breaths as the most trying points were scaled. So rare was the air that ever and anon all would pause to draw a half dozen quick breaths in rapid succession, before the onward march could be resumed.

It was a tremendous climb but the outcome warranted the labor, the fatigue, the tremor of fright, for the outlook from the crest, as also the sunrise, were entirely indescribable. If one ever seems right in God's very presence it is while on some such towering peak as "Old Baldy." As I gazed entranced at the grand, varied, far-reaching landscape, I uttered the truth that I would rather have given $25 than to have had my daughter miss the experiences. She made the trip with easy, lightsome steps, and hardly knew her weakness till the race was run. Our beds were on the small broken rocks that mark the bald summit; with a good camp-fire and our blankets we kept the chill away, and slept some.

At 5 a. m. we enjoyed the transcendent sunrise, which alone paid for the journey. We then proceeded at once to make the homeward march. We reached camp at 12:30. Oh, we were so tired! All our party kept their cheer, their smiles, and their tempers. I guaged all by my own tired muscles, and was proud that I had such friends and comrades. Those light of weight, and used to labor, endured it well; those great with avoirdupois, and unused to such exercise, almost fainted on the home stretch. Yet we all have even now lost sight of the hard effort and wearisome climb, and now think only of the beauty and grandeur.

We seemed, and will ever seem, nearer to God, for we were a night and a day in the very glory of his most magnificent handiwork.

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last.

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We were obliged to notify you a few weeks ago that one Joseph M. McCaul had leased our old quarters at Nos. 120–122 West Broadway, New York City, and had there started up business under the name "HILDRETH, McCaul Co.," and had distributed a multitude of circulars so worded as to create the impression that his business was a successor to or a branch of the business of Hildreth & Segelken.

For the protection of our shippers and ourselves, we at once instructed our attorney to commence action to enjoin the said McCaul from using the name HILDRETH in any manner whatsoever in connection with his business. On the 10th day of July, 1901, Hon. David McAdam, Justice of the Supreme Court of the State of New York, after a full argument upon the merits, issued a peremptory injunction, of which the following is an extract:

"And it appearing that the plaintiffs have for a long time been and now are carrying on business under the style of 'Hildreth & Segelken,' and that the defendant has recently opened a business at 120–122 West Broadway, in the Borough of Manhattan, City of New York, and is carrying on the same under the style of 'Hildreth, McCaul Co.,' and that such act is in violation of the plaintiffs' rights, and that the commission or continuance thereof, during the pendency of this action will produce irreparable injury to the plaintiffs; it is

ORDERED that the defendant (Joseph M. McCaul) and each of his agents, servants and employees and all other persons acting under his authority and direction be, and he and they are hereby restrained and enjoined from showing, displaying or otherwise using during the pendency of this action in or upon any papers, devices, sign or signs, or otherwise, in the business conducted by the the defendant at No. 120–122 West Broadway, in the Borough of Manhattan, City of New York, or elsewhere the name of "Hildreth" separately or conjunctively with any other name, designation or description."

Outside of our desire in our own interests to protect the name which we have built by years of satisfactory dealings with our customers, we hastened to procure this injunction as soon as possible, to prevent our shippers from being misled into sending their goods to one who would make an attempt to gain their trade by such a trick and device.

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GENERAL ITEMS

Is the "Wide-Open" Fair a Financial Success?

The Civic Committee of Boston has sent a series of questions to the secretaries of all the State Boards of Agriculture, asking whether, in their opinion, the purely legitimate Agricultural fair or the "wide-open" fair pays better in the long run financially, socially and educationally. Opinions in reply have been received from 24 States, including two Provinces of Canada.

Without exception these officials say that the purely legitimate Agricultural fair pays better financially in the long run; that the "wide-open" fair is not a financial success, that it is offensive to the better class of people on whom the fair must rely for continued support, and is demoralizing to the surrounding community.

They are also unanimous for rigorously excluding all games of chance; for strictly prohibiting all alcoholic liquors, except California; and they severely condemn vulgar tent-shows and suggestive demonstrations on the outside of tents.

As to whether "circus" features tend to absorb time, strength and interest of patrons to any disadvantage to the exhibitions of farm, home, school and factory products, the majority believe that they do, and therefore should not be encouraged. One-half of the writers lean to the view that entertainments, those foreign to the real features of the fair, should be done away with as fast as the people can be educated to appreciate the fair for its own sake. THE CIVIC COMMITTEE.

Boston, Mass., Aug. 1.

Very Dry in Idaho.

It is very dry here now, but the bees are doing some great work on catnip, buckwheat, and mignonette. I have nice, strong colonies from two colonies I purchased a year ago. I try to prevent swarming as far as practical. I use 8-frame hives, but the best helper I have is the American Bee Journal.

J. C. LARKEE.

Nez Perces Co., Ida., Aug. 1.

Good Season for Honey.

I am a beginner in the bee-business, and hope, in time, to make a success of it. I worked for increase this year, so I do not expect to get much honey, although this has been a great season for honey here. There is an abundance of sweet clover, which the bees are working on. I hope and expect soon to be a member of the National Bee-Keepers' Association, as I think it is a worthy cause.

LINCOLN WHITNEY.

Will Co., Ill., Aug. 6.

Building a Mouse-Proof Honey-House.

G. M. Doolittle tells how to build a honey-house, on page 436, emphasizing the necessity of having it "mouse-proof." I think I can tell the readers of the American Bee Journal how to erect such a building and have it mouse-proof without the trouble and expense of "lining it with tin," and I can do it best by telling how I built my own.

After laying the sills on good-sized rocks, three feet apart, and placing the joists on top of the sills, I then laid the floor—good, matched material, free from knot-holes—flush with the outside of the joists all around; then spiked 2x4 scantling flatwise on top of the floor clear around the outside, like a plate; then toe-nailed the studding to this; sided it with good, matched drop-siding, painting the tongues with *thick* paint as fast as it was put on.

The building is provided with five windows and a door, all provided with screens, the latter self-closing, and which I leave on summer and winter, so that if the door is care-

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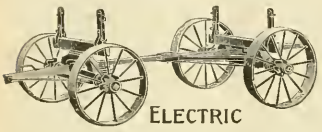

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We have a small quantity of Catnip Seed which we wish to offer our readers. Some consider catnip one of the greatest of honey-yielders. We will mail to one of our regular subscribers **one ounce** of the seed for sending us ONE NEW subscriber to the American Bee Journal for a year with $1.00; or will mail to any one an ounce of the seed and the American Bee Journal one year—both for $1.30; or will mail an ounce of the seed alone for 50 cents. As our stock of this seed is very small, better order soon.

GEORGE W. YORK & CO.,

144 & 146 Erie St., - CHICAGO, ILL.

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lessly left open the screen will close, keeping out mice, cats, or anything of this kind.

The building has been in use three years, and I can say, truthfully, that not a single mouse has ever been inside of it. My house was built in the same way, except that between the joists is filled with grouting level with the top, with a double floor. In the six years that we have occupied it, not a mouse has found its way into any part of it—up-stairs, down-stairs, or between the walls.

Another advantage is claimed for a house built in this way, that is, in case a tornado twists the building into kindling-wood, the floor will be left, so that if the family take refuge in the cellar they will be safe; but I am very glad to be able to say that we have not yet been compelled to test the truth of the statement. A. F. FOOTE.

Mitchell Co., Iowa.

Good White Clover Flow.

I have 25 good colonies, have taken off 922 pounds of fine white clover honey, and have about 100 pounds more to take off. We have had a fine flow. Bees are in fine condition. I have not lost a swarm this summer. Several colonies swarmed four times apiece. I put them back, and cut out the queen-cells. Honey sells readily at 12½ cents per section. I have 500 pounds yet in cases put away for sale. My brother, D. D. Cole, has taken off 825 pounds—all very fine honey.

J. W. B. COLE.

Audubon Co., Iowa, July 23.

No Honey-Flow.

I have been interested in bees for some time. Two summers ago I bought a colony with a tested Italian queen; last year my increase was a prime swarm and an after-swarm, which wintered well. Two of them cast two swarms each this year. Last year I had a surplus of 40 pounds of honey, but as yet I have no surplus, as there has been no honey-flow in this section. I want to try feeding.

CHAS. HARDIN.

Greene Co., Tenn., July 22.

Treatment for Bees Supposed to be Diseased.

On pages 487 and 488, I notice that a bee-keeper in Massachusetts has trouble with his bees, which seems to be a disease, or some consider it so. Thus far I consider the trouble arises, first, from a lack of vitality in the queen; second, chilling of brood; and third (and principally), starvation in its various stages. Care should be taken to keep bees dry and warm in the spring, or the whole season; plenty of good food supplied when they are short in honey, and a good watering-place in the apiary kept going from early spring until quite late in the fall. New blood should be introduced, and to make sure work of it, where bees are bad, they might be put on full sheets of foundation. This followed carefully will make a great improvement, and should rid the bees of dying brood. Many have this same thing in their yards in a degree, and do not notice it until it becomes quite bad. When the case becomes serious the bees will amount to nothing.

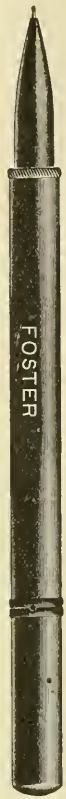
D. J. BLOCHER.

Stephenson Co., Ill., Aug. 8.

The Mulberry as a Honey-Plant.

Do you believe in telepathy? Then how do you explain the fact that since I accidentally discovered the value of the white mulberry as bee-food for honey-producing—before the article in reference to mulberries had appeared in the American Bee Journal (page 493)—enquiries have been received, special explanations being desired?

If the editor will permit me space I will cheerfully add the result of recent and more extended experiments. I should have been more explicit in some of my details in the first article, to which I will advert in this. I am not certain as to how large dimensions the white mulberry tree attains. The black, I know, grows to be large, in some sections used for saw-logs, but the white may not



(Exact size of the Pen.)

FREE as a.... Premium

A Foster Stylographic PEN....

This pen consists of a **hard rubber** holder, tapering to a **round point**, and writes as smoothly as a lead-pencil. The **point** and **needle** of the pen are made of **platina**, alloyed with **iridium**—substances of great durability which are not affected by the action of any kind of ink.

They hold sufficient ink to write 10,000 words, and **do not leak or blot.**

As they make a line of **uniform width** at all times they are **unequaled for ruling purposes.**

Pens are furnished in neat paper boxes. Each pen is accompanied with full directions, filler and cleaner.

BEST MANIFOLDING PEN ON THE MARKET.

19,000 Postmasters use this kind of a pen. The Editor of the American Bee Journal uses the "Foster." You should have one also.

How to Get a "Foster" FREE.

Send TWO NEW SUBSCRIBERS to the American Bee Journal for one year, with $2.00; or send $1.90 for the Pen and your own subscription to the American Bee Journal for one year; or, for $1.00 we will mail the pen alone. Address,

GEORGE W. YORK & CO.

144 & 146 Erie St., Chicago, Ill.

ALBINO QUEENS If you want the most prolific Queens—If you want the gentlest Bees—If you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.

11A26t J. D. GIVENS, LISBON, TEX.

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BEE-SUPPLIES!

ROOT'S GOODS AT ROOT'S PRICES

Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.

WALTER S. POUDER.

512 MASS. AVE. INDIANAPOLIS, IND.

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Low Rates to Buffalo Pan-American.

The Nickel Plate Road are selling tickets at exceptionally low rates to Buffalo and return, good for 10, 15 and 30 days. For particulars and Pan-American folder of buildings and grounds, write John Y. Calahan, General Agent, 111 Adams St., Chicago. 'Phone Central 2057. City Ticket Office, 111 Adams St. 19—3t

BEE-KEEPERS' SUPPLIES

THE FINEST IN THE WORLD.

Our New 1901 Fifty-Two Page Catalog Ready.

Send for a copy. It is free.

G. B. LEWIS COMPANY, Watertown, Wis., U.S.A.

Branch, G. B. Lewis Co., 19 S. Alabama St., Indianapolis, Ind.
Excellent shipping facilities and very low freight rates for Southern and Eastern territories.

Please mention Bee Journal when writing.

25 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 25 cents a pound—CASH—for best yellow, upon its receipt, or 27 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

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California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,
330 Market Street, - San Francisco, Cal.

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Standard Bred Queens.

Acme of Perfection.
Not a Hybrid Among Them.
IMPROVED STRAIN GOLDEN ITALIANS.

World-wide reputation. 75 cts. each; 6 for $4.00.

Long-Tongued 3-Banded Italians

bred from stock whose tongues measured 25-100 inch. These are the red clover hustlers of America.

75c each, or 6 for $4.00. Safe arrival guaranteed.

FRED W. MUTH & CO.
Headquarters for Bee-Keepers' Supplies,
S.W. Cor. Front and Walnut Sts.
Catalog on application. Cincinnati, O.

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Marshfield Manufacturing Company.

Our Specialty is making **SECTIONS**, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

8A26t **Marshfield Manufacturing Co., Marshfield, Wis.**

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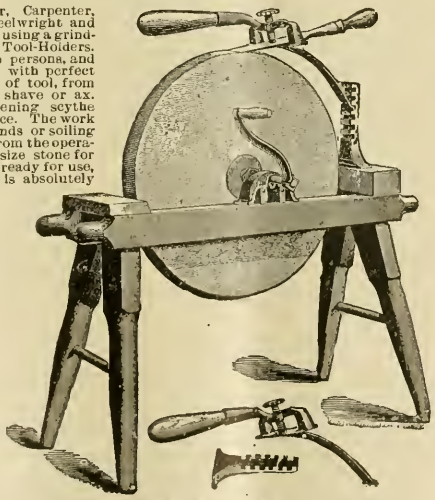
A HANDY TOOL-HOLDER!

Sent by Express, for $1.50; or with the Bee Journal one year—both for $2.00.

Every Manufacturer, Miller, Carpenter, Cabinet Maker, Machinist, Wheelwright and Quarryman, Farmer, or any one using a grindstone, should have one of these Tool-Holders. One boy can do the work of two persons, and grind much faster, easier and with perfect accuracy. Will hold any kind of tool, from the smallest chisel to a draw shave or ax. Extra attachment for sharpening scythe blades included in the above price. The work is done without wetting the hands or soiling the clothes, as the water flows from the operator. It can be attached to any size stone for hand or steam power, is always ready for use, nothing to get out of order, and is absolutely worth **100 times its cost.**

No farm is well-equipped unless it has a Tool-Holder. Pays for itself in a short time.



How to Use the Holder.

Directions.—The Tool is fastened securely in the Holder by a set-screw and can be ground to any desired bevel by inserting the arm of the Holder into a higher or lower notch of the standard. While turning the crank with the right hand, the left rests on an steadies the Holder; the Tool is moved to the right or left across the stone, or examined while grinding, as readily and in the same way as if held in the hands.

For grinding **Round-Edge Tools**, the holes in the standard are used instead of the notches.

GEORGE W. YORK & CO., 144 & 146 Erie St Chicago, Ill.

grow so big, but large enough to produce abundant shade and bear quantities of luscious fruit.

The berries begin to ripen about the first to the second week in June, and continue to ripen until nearly the last of July—according to the season. If cool and wet, the berries do not mature so quickly. But the greatest advantage is that the fruit ripens gradually, affording extended feeding-time—so unlike other nectar-producing fruits, of few days' duration. The simplicity with which the berries can be utilized—easily gathered and crushed—that a small child can readily be taught to feed it to the bees.

The fact that the bees take kindly to this new product is beyond question—they simply devour every vistige that can be made available, leaving only the seeds.

Now as to the kind of honey produced. I opened up a hive the other day and found both comb and honey which I have good reason to believe was the result of the mulberry harvest. The comb was new, beautifully white, and especially translucent; the honey was as pure and white as any sweet clover honey, and the flavor much like that of alfalfa, but innocent of the slightest "foxy" taste of the basswood and pungent blossoms, not to mention buckwheat. I can imagine no more delicate flavor, and in appearance it is ideal.

Of course, the natural argument will arise: "How do you know it wasn't white clover honey?" Well, I'll have to resort to woman's final reason—"'Cause." I may as well attempt to explain the sound of a violin—you can only know by hearing it; the honey you can only appreciate by tasting.

You can, by no possibility, miss doing a good thing in planting white mulberries in every available place around your home. Stick cuttings in the ground and let them grow.

To the good wife let me say, that white mulberries stewed with about one-fourth currants—or pie-plant—makes one of the most delicious jellies or jams in the world. No sugar needed. Dr. Peiro.

Cook Co., Ill.

As to Editors of Bee-Journals.

It seems to some a matter of reproach that editors of bee-journals are not completely informed on all topics nearly or remotely connected with the subject of bee-keeping. Arthur C. Miller complains of the silence of the text-books and the ignorance of editors as to the laws of heredity and the principles of breeding; and now F. L. Thompson, in the Progressive Bee-Keeper, takes up the refrain at still greater length. This reproach against the ignorance of bee-editors does not seem to be bitterly resented by at least one editor, for the editor of the Progressive makes no word of reply, and it is not likely that any other will attempt to deny the charge. No one is more likely than the editor of a bee-journal himself to be conscious of his need of information; and the reproach that he has not yet learned all that is to be known about bee-keeping is likely to strike him much as would the reproach that he has not strength to live on without eating.

The mistake that Mr. Thompson seems to make is in supposing that editors of bee-journals pose as the repositories of all knowledge on the subject of bee-keeping. If bee-keepers had any such view, then their journals would be made up entirely of editorials. But at the present day no bee-journal is conducted on any such line. Instead of being filled up entirely with what the editor has to say, the bee-journal of the present day seeks contributions from all quarters. If any bee-keeper has had special opportunity for becoming particularly well informed on some one sub-

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.

ject connected with bee-keeping, contributions from him upon that subject will be eagerly sought. Instead of a bee-journal being a mouth-piece through which one man seated on a pinnacle may deal out wisdom to the common herd below, it is, rather, a clearing-house through which may pass in exchange the gathered wisdom of all.

Still greater is the mistake that a bee-journal should seek to repress knowledge upon a subject with which the editor is not entirely familiar. Having learned that an article having some reference to the matter of scientific queen-rearing had been sent to appear in the columns of this journal, Mr. Thompson says: "I fear that either it will never get there, or, if it does, it will be accompanied by a crushing footnote, written more in sorrow than in anger." If he will turn to page 382, he will find the article in question, with a footnote not at all "crushing," containing neither sorrow nor anger. So far from that, he will be rejoiced to find the footnote only commendatory, saying, "Bee-keepers have much to learn from the breeders of other fine stock," and his joy will be increased to find that sufficient progress has been made to commend heartily in-breeding on the lines indicated.

No, the bee-journal that seeks to repress knowledge that may benefit bee-keepers in general would be committing suicide. The watchword with all should be, and probably is, "Let there be light."—Gleanings in Bee-Culture.

Red Clover—How Important is It?

The desire to obtain the nectar secreted by red clover is one of long standing; and the common impression is that a very large quantity of nectar per acre would be secured from it if the flower-tubes were not too deep for the reach of the honey-bee. Latterly some discredit has been cast upon red clover as a honey-plant, even supposing that all its nectar could be secured, by the fact that it is not a plant of universal cultivation.

There are a few plants that yield an enormous amount of nectar; but as they are kept only in greenhouses, averaging less than one plant to the acre, they are valueless from a bee-keeper's standpoint. If, however, any good honey-yielder were widely distributed in dense quantity over a single State, then it would assume some degree of importance. The buckwheat crop of the State of New York would be no trifling matter, even if not another acre of buckwheat were found elsewhere in the United States. If it were possible to obtain certain bees that would double the buckwheat honey crop of New York, the amount of money gained by that would warrant no small outlay. Is it not possible that there are single States in which the nectar secreted by red clover would amount to several thousand dollars?

But is red clover confined to a rather limited area? It would be interesting to know just what is the average acreage. Lacking that, some estimate may be made from the amount of clover seed raised. The government statistics give us the figures, and it is probably safe to infer that by "*clover seed*" is meant that from red clover. According to the last census available, that of 1900, an amount of clover seed, large or small, is given as being raised in every State and Territory of the United States except Montana and Wyoming. Certainly that shows that it is not confined to so small an area as some suppose.

The North Central division leads with a product of 2,544,864 bushels. The South Central comes next with 77,783 bushels; the North Atlantic, 71,128 bushels; South Atlantic, 35,155 bushels; Western, 24,250. Total, 3,753,180 bushels.

That shows a very unequal distribution; but this distribution of the growing plants is by no means what the figures would indicate. From the States that are the greatest producers, as New York and Pennsylvania, large quantities are exported, and, of course, other States import, thus making the acreage grown in the different States much more uniform than the amount of seed produced.

If all the seed raised is sown again—and it is not likely that it is ever used for any other purpose—and if a peck of seed is sown to the acre, it would cover a little more than 11,000,000 of acres. To speculate as to the amount

A Superior Red Clover Queen

(AN UNTESTED ITALIAN)

For sending us One New Subscriber and 25 cents ($1.25 in all.)

We arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us this season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he uses is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

All queens guaranteed to arrive in good condition, and all will be clipped, unless otherwise ordered.

We would like each of our present readers to have one or more of these fine Queens. Simply send us the name and address of a new subscriber for the American Bee Journal for one year, and 25 cents extra, and the Queen will be mailed to you. Our queen-rearer is now caught up with orders, and expects to be able to mail them hereafter within 48 hours after we receive the order. He is in another State, and we will send him the Queen orders as fast as we get them at this office. He is prepared to rear and mail a large number.

The cash prices of these Queens are $1.00 each; 3 for $2.70; or 6 for $5.00.

Send all orders to

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

FREE FOR A MONTH....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper published in the United States.

Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

QUEENS

QUIRIN—THE QUEEN-BREEDER—has now on hand, ready to mail, **500** young, long-tongued Red Clover Queens, Golden or Leather Colored.

We have one of Root's best breeders from his $200, long-tongued, Red Clover Queen, and a Golden Breeder which we are told is worth $100, if there is a queen in the U. S. worth that sum.

J. L. Gandy, of Humboldt, Nebr., tells us that the colony having one of our queens, stored over 400 pounds (mostly comb) honey in a single season. A. I. Root's folks say that our queens are extra fine, while the editor of the American Bee Journal tells us that he has good reports from our stock from time to time.

We have years of experience in mailing and rearing Queens. Queens positively by return mail from now on. Prices for balance of season as follows:

	1	6	12
Selected	$ .75	$ 4.00	$ 7.00
Tested	1.00	5.00	9.00
Selected tested	1.50	8.00	

Extra selected tested, the best that money can buy, 3.00

H. G. QUIRIN,
Parkertown, Ohio.

(Parkertown is a Money-Order Office.)

By contract this ad. will appear twice per month only.

27D6t Please mention the Bee Journal.

COMPLETE POULTRY BOOK FREE.

Contains 208 pages, profusely illustrated, plans for houses, incubators, brooders, coops, etc. Given free if you send this advertisement and 25 cents for a year's subscription to our Journal. INLAND POULTRY JOURNAL, Indianapolis, Ind.

29Dtf Please mention the Bee Journal.

Red Clover Queens!

bred from a daughter of the A. I. Root Co. long-tongue $200.00 Queen, and mated in my apiary where there is nothing but the best Italian stock.

I have drones flying in my apiary from **seven different States.** Untested, 50c each, $5.50 per dozen. Safe arrival.

W. J. FOREHAND,
29D6t FORT DEPOSIT, ALA.

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SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	$ .70	$1.20	$2.75	$5.00
Sweet Clover (yellow)	1.00	1.80	4.25	8.00
Alsike Clover	.90	1.70	3.75	7.00
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.

1901—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog.
M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

Daily Excursions to Buffalo and New York,

via Nickel Plate Road. Through trains to New York City without change. Vestibuled sleepers Chicago to Boston. Dining-cars on all trains. Meals served on American Club plan, at from 35 cents to $1.00. Write John Y. Calahan, General Agent, 111 Adams St., Chicago, for particulars. 20—3t

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of honey that could be obtained from this acreage would be outside of the present inquiry, and it is doubtful as to there being sufficient data to justify anything like a reasonable estimate. It is only desired to show that the aggregate of red clover territory is no trifling affair, and that it is widely distributed.—Gleanings in Bee-Culture.

Distance of Apiaries.

At a conference of the Victorian Apiarists' Association, as reported in the Australasian Bee-Keeper, it was adopted as a rule of this Association membership, that in the "*future establishment* of apiaries a distance of *at least* three miles should be preserved from any existing member's apiary unless by mutual consent, and that failure to observe this rule, should, on being properly brought before the executive of the Association, disqualify for membership."

Another rule added, provided that "any member practicing adulteration of the products of the apiary, or guilty of fraudulent preceedings as a bee-keeper, should be disqualified."

It was pointed out by one and another that the very grave mistake of crowding close to another apiary, often of superior numbers, was made by beginners in the industry because they were *ignorant* of the severe loss it entailed on themselves, especially; and by others who lacked that moral sense of honor and fair play that even rabbiters will observe in keeping at a fair distance from their neighbor. Several bee-keepers thought the distance should be five miles apart, and no doubt was expressed that this is in all but the very best of bee-country quite close enough, and that three miles in the off or bad season is very much *too* close for apiaries of any considerable size.

The Bee in Law.

Under this caption has begun in Gleanings in Bee-Culture a series of articles by F. D. Fisher, with a view to having them afterward in book form for convenient reference. This will serve a convenient purpose, especially as laws of different States are by no means alike. As to ownership, Mr. Fisher says:

With regard to bees, Blackstone, the great law-giver, says:

"Bees also are *feræ naturæ* (wild by nature); but when hived and reclaimed, a man may have a qualified property in them by the law of nature as well as by the civil law."

And to the same purpose, not to say in the same words with the civil law, speaks Bracton: "Occupation, that is, hiving or including them, gives the property in bees; for, though a swarm alights upon my tree, I have no more property in them till I have hived them than I have in the birds which make their nest thereon; and, therefore, if another hives them, he shall be their proprietor; but a swarm which flies from out of my hive is mine so long as I can keep it in sight and have power to pursue them; and in these circumstances no one else is entitled to take them."

But in respect to such animals as are in the habit of going and returning, as pigeons and bees, which are accustomed to go into the woods and fields, and come again, we have this traditional rule that, if they cease to have the intention of returning, they also cease to be ours, and become the property of the first taker, because they cease to be what are termed *animus revertendi* when they have discontinued their habits of returning.

Ownership in bees is *ratione soli*—that is, bearing reference to the soil, and is said to be the ground of ownership in bees. So in the civil law, if a swarm of bees had flown from A's hive they were reputed his so long as they remained in sight and might easily be pursued; but they do not become private property until they are actually hived. Bees, along with other wild animals, furnish the only distinct class of chattels which have been made the subject of primary occupancy. Even here, notwithstanding the universal principle of law, that all mankind may pursue and take animals, whether of the air, earth, or water, in a wild state, the first occupant becoming the owner, there is found a restraint which ownership of the soil imposes, and which fastens the closer as population grows and civilization advances.

DO YOU WANT A HIGH GRADE OF

Italian Bees and Queens?

2-frame Nucleus with Untested Queen, $2.00, purchaser paying express charges.

NOTICE.

Having sold my property I am required to give possession soon, as well as move my entire apiary. Therefore I will quit filling orders Sept. 1. Our bees will be put in a more roomy place, and there prepared for winter.

Months	July and August.		
Number of Queens	1	6	12
GOLDEN QUEENS.			
Untested	$ .75	$ 4.00	$ 7.00
Tested	1.25	6 50	10.00
Select Tested	2.00	9.00	16 00
Breeders	5.00		
HONEY QUEENS.			
Untested	$ .75	$4.00	$ 7.00
Tested	1.25	6 50	10.00
Select Tested	1.50	7.00	12.00

Safe arrival guaranteed. Descriptive price-list free. D. J. BLOCHER, Pearl City, Ill.

28Atf Please mention the Bee Journal.

Wanted Fancy White Comb Honey in no-drip cases; also Extracted Honey. State price, delivered. We pay spot cash. FRED W. MUTH & Co., Front & Walnut Sts., Cincinnati, Ohio. Reference—German National Bank, Cincinnati.

28A17t Please mention the Bee Journal.

Wanted—Honey.

Car Lots or otherwise; will pay highest market price, spot cash. Address, stating quantity, quality, and price desired at your station. Will send man to receive when lot is large enough to justify. THOS. C. STANLEY & SON,

31Atf FAIRFIELD, ILL.

Wanted.

Comb and Extracted Honey. Will buy your honey no matter what quantity. Mail sample of extracted, state quality of comb honey and price expected delivered in Cincinnati. I pay promptly on receipt of goods. Refer you to Brighton German Bank, this city.

C. H. W. WEBER,

2146-2148 Central Ave., CINCINNATI, OHIO.

29Atf Please mention the Bee Journal.

Wanted Comb and Extracted Honey!

State price, kind and quantity.

R. A. BURNETT & CO., 199 S. Water St., CHICAGO

33Atf Please mention the Bee Journal.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,

144 & 146 Erie Street, CHICAGO, ILL.

Daily Excursions Via Nickel Plate Road

Chicago to Buffalo and New York. Special low rates and favorable limits to all points East. Call on or address John Y. Calahan, General Agent, 111 Adams St., Chicago. 21—3t

Please mention Bee Journal when writing Advertisers.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Aug. 3.—For choice white comb honey the demand is equal to the receipts at 15c per pound, but off grades are slow at 1 to 3 cents less. Extracted is selling more freely at 5½@6c for white; amber, 5@5½c. Beeswax steady at 30c. R. A. BURNETT & Co.

CINCINNATI, May 17.—No demand for comb honey, also stock of it well exhausted. Extracted very dull; sales are more or less forced; lower prices from ½ to 1 cent per pound.

C. H. W. WEBER.

BOSTON, Aug. 3.—The honey market is practically nominal, demands being nothing owing to the warm weather. We have had one lot of new honey in that sold at 17c. Extracted, light amber, 8c; amber, 6@7c.

BLAKE, SCOTT & LEE.

OMAHA, Aug. 8.—New comb honey is arriving by express in small quantities from Iowa and Colorado, and selling at $3 50 per case in a retail way. California extracted honey is being offered carlots at 4½@4¾c per pound, f.o.b. California shipping-points, but we have not heard of any sales having been made thus far. The production of extracted honey seems to be quite large this year in Colorado, Utah and California. PEYCKE BROS.

NEW YORK, Aug. 7.—There is some demand for new crop of comb honey, and receipts are quite numerous for this time of the year. They have been principally from the South, but we are now beginning to receive shipments from New York State and near-by. We quote: Fancy white, 15c; No. 1 white, 13@14c; amber, 11@12c. No new buckwheat is on the market as yet, and we do not expect any before next month.

Extracted is decidedly dull. Plenty offerings, with only a limited demand, and quotations are rather nominal. We are selling at from 5@6c, according to quality, and Southern in barrels at from 55@65c per gallon. Beeswax dull and declining; for the present we quote 27@28c.

HILDRETH & SEGELKEN.

ALBANY, N. Y., June 18.—Honey market is dull with no receipts or stocks and little demand. It is between seasons now. Prospect of good crop in this vicinity from what bees there are left, the greater portion having been killed by foul brood exterminators. H. R. WRIGHT.

DES MOINES, Aug. 7.—There is very little doing here in new crop of honey. Some small lots of near-by produced comb honey are on the market and selling in a retail way at $3.50 to $3.75 per case. We do not look for much trade in this line before Sept. 1. Our market does not consume a great deal of extracted honey.

PEYCKE BROS. & CHANEY.

DETROIT, July 18.—Fancy white, 15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c; dark and amber, 5@6c. Beeswax, 26c.

M. H. HUNT & SON.

BUFFALO, Aug. 8.—Fancy new 1 pound comb honey, 16@17c; darker, proportionately lower, from 15c down. Old not wanted, and neglected. Beeswax, 22@28c. BATTERSON & Co.

KANSAS CITY, June 14.—Very little old honey on our market but what is damaged by being granulated. Sales are light at 15 cents for best grade No. 1 Colorado. Amber, 13c. Beeswax firm at 25@30c.

W. R. CROMWELL PRODUCE Co.,
Successors to C. C. Clemons & Co.

SAN FRANCISCO, July 31.—White comb, 11@12½ cents; amber, 8@10c; dark, 6@7½c. Extracted, white, 5½@—; light amber, 4½@5c; amber, 4@4½c. Beeswax, 26@28c.

Only very moderate quantities offering and nothing in spot supplies to indicate that this year's yield was of liberal proportions. Much of this season's honey, however, is being held back at producing points. Bids of large operators continue under the views of holders.

KANSAS CITY, Aug. 6.—Some very fine Missouri honey is now on the market, selling at 16@17c per pound for fancy white comb. Colorado and Utah shippers are offering new comb honey in carlots for first half of August shipment at 10c per pound for No. 1, and 9@9½c for No. 2, f.o.b. shipping-point. The market for extracted honey is as yet rather unsettled, asking prices ranging from 4½@4¾c, f.o.b. shipping-point. Buyers, however, seem to be in no hurry to make contracts. PEYCKE BROS.

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Please do not conflict the above offer with the one on another page which refers to Red Clover Queens. For sending us one new subscriber at $1.00, and 25 cts., we will mail you free an Untested Red Clover Italian Queen.

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CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

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More Bee-Keepers' Paradises....

E. R. Root has just returned from a 6,000-mile trip through some of the best bee-locations in the world, and has already begun his series of write-ups, accompanied with fine photos, in Gleanings in Bee-Culture. The following editorial appears Aug. 1, and will give something of an idea of what he will describe:

Some little time ago I promised to tell about the bee-keepers' paradise in Texas. I have this on the docket, and it will appear as I take up the line of my travels. But since running across that paradise I have run into two or three others. There is one west of the Rockies, in Colorado, that is not yet overstocked with bees or bee-keepers; another one in Central Idaho—in fact, I do not know but the whole State. These will be described in turn. The fact is, millions of capital are being invested in irrigation: irrigation means alfalfa; alfalfa means a paradise for bees. But I found all along my trip that alfalfa-growing preceded bee-keeping by two or three years, for it seems to take about that length of time before bee-keepers find these gold-mines that have been hitherto unoccupied.

If you are dissatisfied with your present location, and for financial reasons, or on account of health, will be compelled to leave, subscribe for Gleanings in Bee-Culture, and learn something about the great South and the great West. There are many locations in the West that are not yet occupied—splendid bee-locations. If you wish to learn about them, send 25 cents for a six-months' trial subscription, or $1.00 for one year and one untested Italian queen. Or, send $2.00 and we will send Gleanings one year and one of our celebrated Red Clover Queens.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor

CHICAGO, ILL., AUGUST 22, 1901.

FORTY-FIRST YEAR
No. 34.

WEEKLY

TWO PAN-AMERICAN BUILDINGS.—See next page.

THE AMERICAN BEE JOURNAL

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GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

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Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

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National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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☞ If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Secor, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introdnce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to entighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

CLOSED SATURDAY AFTERNOONS.—It seems that some of our customers have forgotten that our office and store are closed Saturday afternoons from July 1 to Oct. 1.

MR. E. M. HUNT, son of M. H. Hunt, of Wayne Co., Mich., was married to Miss Jessica Sawtell, Tuesday, Aug. 13. Heartiest congratulations to them.

ON TO THE THOUSAND.—Still they come—those who are helping to make up the first 1000 members of the National Bee-Keepers' Association. These names have come to this office, with the dollar each, since our last issue:

GEO. W. HARRISON, H. P. HENNINGSEN, JOHN CONSER, FRANK L. GOSS, THEO. J. WOODWARD.

MR. H. W. CONGDON, of Hardin Co., Iowa, called on us Aug. 9. He was on his way to Buffalo, to visit the Pan-American Exposition, and also his parents who live near there. Mr. Congdon has between 40 and 50 colonies of bees, and hopes next year to establish out-apiaries. His crop this year, owing to the drouth, has not been very much. Still he is not discouraged.

DR. WILLIAM CRENSHAW, of Fulton Co., Ga., dropped in to see us Friday, Aug. 2, when on his way home from the national meeting of the dentists of America, at Milwaukee. Dr. Crenshaw has about a dozen colonies of bees, and is doing nicely with them. Of course, he keeps them more as a pleasurable pastime, in connection with his profession, rather than as a source of financial profit. The Doctor is a very pleasant gentleman to meet. Success to him.

MR. N. E. FRANCE, of Grant Co., Wis., inspector of apiaries for that State, will be the judge of the apiarian exhibits both at the State Fair in Milwaukee, Sept. 9 to 12, and at the Fair at Platteville, Sept. 17 to 20. The judging will be well done, and all will be satisfied.

Mr. France says he has been quite busy treating foul brood, and has had many obstacles to overcome the past year. But he says further that he has now gotten the disease pretty well stamped out of the State, and all remaining cases under quarantine control.

Oh, that every State had a bee-inspector, and every one equal to this one with a French name!

PAN-AMERICAN BUILDINGS.—On the preceding page we show two of the many beautiful buildings of the Pan-American Exposition.

The Agricultural Building contains exhibits of agricultural products, processes and articles pertaining to the farm, of a most interesting character. In these days of scientific farming the successful agriculturist finds it necessary to acquire a fair knowledge of many of the sciences. The agricultural exhibits show many of the wonderful possibilities in farm work.

At the Pan-American Exposition, we understand, are shown the largest display of electrical machinery and appliances ever presented. Nearly every article is the very latest design, and the visitor will find novelties without number in this interesting division. The Electricity Building is of very rich and beautiful design, having a broad loggia on the southern side, while the roof-line is broken with domed towers.

Doubtless many of our readers will have an opportunity to see the Exposition while attending the annual meeting of the National Bee-Keepers' Association at Buffalo, next month—Sept. 10, 11 and 12.

HE WORKS STANDS.—In one of the recent issues of a certain bee-paper an old and experienced writer says, "I work 200 stands." Just think of working the "*stands!*" Wonder what he does with them? But quite likely he meant colonies instead of stands. It's almost beyond understanding how some bee-keepers stand around and still talk about their stands of bees. Or, perhaps they'll say they had so many *hives* in the spring, and increased to twice as many "hives." They don't say whether they bought the extra hives from some bee-supply dealer, or got them by "in-breeding!"

Of course they mean colonies, and not "stands" or "hives."

A BADGE PIN for the members of the National Bee-Keepers' Association is thus suggested by Mr. N. E. France:

"I wish the National Bee-Keepers' Association would adopt some design for a badge pin, and every member have one to wear. The one used at Chicago is good enough. I could relate several instances where persons have asked what that bee-keeper's badge represented. (I wear one all the time.) I answer always, 'National Bee-Keepers' Association.' In one case I was called to settle a dispute about bees, and was introduced as State Inspector and member of the National Bee-Keepers' Association. The fact that I belonged to said Association seemed to settle all dispute, and both were willing to leave their troubles for my settlement. Neither of them belonged to the State or National organization of bee-keepers, but they will join them both at our next meeting."

Hurrah for a badge pin for the members of the National Bee-Keepers' Association! Why not adopt one at the Buffalo meeting? True, the badge pin used at the Chicago convention last year is all right. Why not adopt it?

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And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

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Sweet Clover (white)	$ .70	$1.20	$2.75	$5.00
Sweet Clover (yellow)	1.00	1.80	4.25	8.00
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White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

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Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., AUGUST 22, 1901. No. 34.

Editorial.

Beware of Honey-Dealing Frauds!—Such caution, not many years ago, was absolutely necessary. It was our privilege, as well as enthusiastic pleasure, to help drive out of business a few of the most daring honey-sharks that ever "sharked." And so far as we know they are not "sharking" bee-keepers now, we are glad to say. Many of our readers have at least pecuniary reasons for remembering the Horrie-Wheadon-McConkey crowd that a few years ago so successfully fleeced the unsuspecting honey-producers, here in Chicago. Just now we are not aware of any here that are getting ready to "do up" the "easy" bee-keeper. And yet it is always well to be on one's guard, for no one knows just when the wolf will show his claws through his sheepish covering.

It is a pretty good rule to make a thorough investigation before shipping honey—or anything else, for that matter—to new firms or strangers. The facilities are fairly ample in these days, to learn of the financial responsibility and character of those who solicit the products of the apiary and farm. Also, it is generally true that an old and established firm can do as well, if not better, with any produce entrusted to them, than can new firms. At any rate, we should hesitate a long time before changing from "the old and tried" to the new and untried. The latter may be all right, of course; and then, again, they may not. But if you must experiment with new dealers, our advice is to ship no more at a time than you can afford to lose—until you are satisfied they are honorable and satisfactory in their business conduct.

We can assure you that it isn't pleasant to feel the necessity of giving such caution as the foregoing, as it may be an injustice to some splendid new firms; and yet, the good and well-meaning must sometimes suffer on account of the fraudulent actions of those for whom they are not in any way responsible. But such is the stern law of public trade and dealing. It is hard, and yet there seems to be no other safe way of escape.

Seasonable Articles, that is, articles given at the right time for putting into practice the suggestions contained in them, have been strongly urged at times. What is the use of giving advice about a thing just as the time of year has ended when that advice can be put into practice, and nearly a year must intervene before the next opportunity to try it? In spite of that, F. L. Thompson advocates in the Progressive Bee-Keeper that the close of the swarming season is the best time to discuss the swarming problem. And he gives reasons for it that are not to be despised. Right when a thing is yet fresh in mind with all its particulars is a better time to give it than to wait till particulars are partly forgotten, and enthusiasm has died away. One trouble is, that if a year is allowed to elapse, in many cases, if not in most cases, the bee-keeper concludes he will not write at all.

A horticulturist once gave as a rule for the best time to prune trees. "Prune when your knife is sharp." It may be a good thing for the readers of this journal to follow something like the same rule.

Whenever you have any item that you think would benefit some other bee-keeper, sit right down and write it off, in season or out of season. Sometimes some little thing will be learned, and just because it is a little thing it is not thought worth while to send it. Bee-keeping is largely made up of little things, and many a beginner strikes upon a little thing that some of the veterans have not yet learned, and will be glad to know.

When you have gained some new light, send it in. If it is something that is so generally known that it is not worth while to print it, you need not feel hurt that it does not appear in print. But the danger of that is small. A good many things bear repeating.

Don't be afraid to add your mite.

A Novel Method of Feeding Back to get unfinished sections completed is thus given in the Bee-Keepers' Review by Fred H. Fargo:

The honey to be fed back, which may consist of unfinished sections, or any combs of suitable honey from three to four pounds in quantity, is daily placed in a hive (the entrance to which must be contracted to admit only one or two bees at a time) a few rods from the apiary, and not a great distance from the colony upon which are placed the unfinished sections to be completed. A section of honey, bruised so that the honey is ready to run, and covered with bees, is then taken from the colony upon which are the unfinished sections, and placed in the hive containing the honey to be fed. Or, we can place a section or piece of comb honey on the alighting-board and leave it there until sufficient bees from this colony are taking the honey, then place in the hive as above stated.

These bees, thus carried from their home and placed in a hive containing honey, will work back and forth between this hive and their home, carrying the honey to the latter, and the strange part of it is that they will *defend both hives from robbers.*

In selecting the colony to do this work, choose one containing good workers that will protect their own home against the intruding robber-bees. The fact that the work of carrying away the honey is commenced by bees that are *all from one colony* accounts for their combining in a defense of the spoil.

Commenting upon this, Editor Hutchinson says:

"If one had broken pieces of comb honey, that method might be all right; but for the feeding of extracted honey I think that I should prefer a regular feeder that could be set upon the top of the hive in which the work is being done."

It is barely possible, however, that in some cases there would be an advantage in Mr. Fargo's plan, even when feeding extracted honey. May there not be an advantage in the fact that the bees are getting something from *outside the hive?* Some have complained that after a time the bees showed some weariness about working on feed in the hive, although it is possible this was only when feeding on sugar syrup.

There is one view of the case in which Mr. Fargo's plan might be an advantage, even if most of the feeding were done in the usual way. It is probably always the case that when there are sections to be finished, there are at the same time sections that contain only a small amount of honey, that amount being so small that instead of trying to get them finished by feeding back it is better to have them emptied out by the bees so as to be used as baits the next season. *If* it is true that in all cases the bees will defend the robbed pile as Mr. Fargo says (there seems some reason to believe it when it is remembered that there is often severe fighting among robbers), then two birds may be killed with one stone. When the light sections are put in a pile to be emptied out for baits, as is the practice of many, instead of letting all the bees of the apiary work upon them, just take Mr. Fargo's plan, and let the honey be all used by one colony.

Washing Black Combs.—It is well known that combs become black with age, especially those in which brood is reared, but it is not so generally known that when such combs are filled with water and allowed to stand a few days the water becomes inky black. It is reasonable to suppose that when so much of the dark color is soaked out by water, at least some of it will be absorbed by honey, hence it has been the practice for some time, when a choice article of white extracted honey was wanted for show purposes, to use only new combs for extracting. It is suggested in Gleanings in Bee-Culture that the same end may be reached by washing the coloring-matter out of the old combs. "Lay the combs flat, fill the cells with water from the nose of a watering-can, then after soaking throw the water out with an extractor."

Contributed Articles.

Making Swarms—How It is Done.

BY DR. E. GALLUP.

ON page 478, is an extract on "Close Imitation of Natural Swarming," by G. M. Doolittle. A Langstroth-Simplicity hive makes a very convenient box with the entrance closed, and a board nailed on the bottom, for a clustering-box. You can set up the box open side outward, as he says, and shake the bees from the combs directly into the box, instead of waiting for them to run in, as in hiving. They will begin to cluster at the top end of the box at once. If you have two or more swarms come out at one time and cluster together, or you have after or second swarms with more queens than one, and you wish to separate them, shake them into the clustering-box and let them stay for half or three-quarters of an hour, and the bees will ball the surplus queens, and roll down to the lower edge of the box, and you can cage them and then measure out the bees with a tin dipper, pour them down in front of the hives, and let them run in, the same as hiving a natural swarm.

I once caged eight virgin queens from one after-swarm, and saved them all. They are naturally reared, and usually good ones. In that case the bees hunt out the surplus queens for you. Sometimes they ball every queen, but not usually. It is an easy matter to tell whether every division you make has a queen, by the actions of the bees. Bees in a clustering-box, or hived on empty frames without a queen, will very soon manifest uneasiness, and begin to run about, etc. But if they have a queen they remain quiet. They will accept any strange queen—even virgins will be accepted, or a queen-cell, or a frame of brood containing eggs and unsealed larvæ.

Four years ago I had an observation hive in the wood-house, and the bees were passing out and in through a knot-hole. One of the boys wanted to see bees flying out and in through that knot-hole, so I went to work. I set up my clustering-box in the shade, went to a populous colony, carefully took out a frame of brood and adhering bees, shook the bees into the clustering-box, and as the bees were gathering nectar rapidly there was enough shaken on the bees and in the box to cause them to gorge themselves completely. I placed the comb back in the hive and closed it; I had not disturbed the old colony, either with smoke or drumming, so they went right along with their labor as usual. I went to four different colonies and took the bees from one comb, each in the same manner. I had my smoker on hand in case I needed it, but I did not have to use it. I was careful not to get the queen from any hive. I took a frame of brood from two different hives, inserting an empty frame in their places. It was in the middle of the day, so the old bees were nearly all in the field.

I placed the two combs with the adhering bees in a hive, and hived the cluster, and placed them in the wood-house, and now the boys have the satisfaction of seeing how the loaded bees throw themselves into that knot-hole instead of alighting on the outside and crawling in, as one would naturally suppose they would. The two boys take a great interest in the bees, so I am giving them lessons by actual demonstration.

One can make nuclei for queen-fertilizing or introducing at any time, in the above manner. If there is no unsealed nectar to shake out with the bees, sprinkle them with diluted honey or melted sugar of the right consistency, so they will fill themselves. Be careful not to excite robbers at any time when the bees are not gathering freely. If there is danger, go through the operation just at night. I learned all those kinks of making swarms, nuclei, introducing queens, etc., in old box-hive times, from my old friend Wellhausen, years ago. It takes all the fight out of a bee when gorged with sweet, and shaking them into a clustering-box and letting them stand awhile. They can then be hived and placed where we want them. They are to all intents like a natural swarm. One can take a pint of bees, more or less, from a populous colony, and, for that matter, from a dozen colonies, mix them all up in a clustering-box, and make a good swarm without perceptibly weakening the old colonies, and you get bees of all ages, the same as in natural swarming; and I have always thought that it makes them work with an extra vim.

I have occasionally received a queen from some friend, and have no colony that I wanted to introduce her to. So I would make a swarm for her from several different colonies, As soon as the bees manifest their queenlessness, hive them and let the queen run in with them, and the job is done.

In introducing a virgin, hive them on empty frames, and let them stand for a few hours, say over night, before giving them a frame of brood and honey. For I always like to "set them up in housekeeping," as sometimes they are not satisfied and will start queen-cells if given eggs and larvæ at once. When we hive a swarm, sometimes the weather turns bad for a few days, and then they need honey in the hive, or ought to be fed.

I have moved my bees at times from one position to another by shaking and brushing them from their combs into a clustering-box, moved the hive to the new stand, and then after letting them stand awhile run them into the hive, and they are moved.

Orange Co., Calif.

Italianizing Colonies of Black Bees.

BY G. M. DOOLITTLE.

A CORRESPONDENT writes thus: "I am a beginner in bee-keeping and wish to know how I can best manage to Italianize ten or twelve colonies of black bees, with the view of being least liable to go wrong. I am taking the American Bee Journal and am so captivated with it that I read each number over and over before I file it away for binding. And so I should like to have you answer through that paper, and then I shall have your answer where it will not get lost."

Well, your last thought is one not often hinted at, and I must confess it is a good one, where bee-papers are properly filed away for future reference. I have mine so filed, and there are few things in the back volumes of these papers, which are of practical value to the apiarist, but what I can turn to them in a very short time. If more of our bee-keepers realized the value of the back numbers of the bee-paper they are taking, there would be more wisdom in our ranks than is often manifested, and less bee-papers found among the bundles the "paper-rags-buyer" carries off after visiting their homes.

But to the question: The Italianizing of your apiary depends upon whether you are desirous of doing all the work yourself, and thus learning all the little kinks of queen-rearing, or whether you simply wish to have all of your bees of the Italian variety as speedily as possible, with no further attention being paid to the matter. If the latter, then I would advise buying untested queens of some reliable dealer; learn through him how to introduce them safely, and when introduced successfully you will have solved the matter.

If, on the other hand, you would like to know something of queen-rearing yourself, (and no bee-keeper is fully a competent bee-keeper until he is perfectly familiar with this part of the work), then buy a queen of two different queen-breeders, each one being good enough to stock an apiary with, and rear queens from one and drones from the other. Keep down all black drones by using only worker-combs in the brood-chambers of the black colonies, except a little piece three or four inches square in one comb, keeping that comb in a certain position in each hive, so that once every three weeks you can take these combs from the hives and shave the heads from the nearly mature drones.

Then if you paint that portion of the top-bar red, right over where the drone-comb is, you can at once tell where this comb is, should the frame get misplaced, from any reason, and if you have this comb near the top-bar to the frame, and keep the frame next to the side of the hive, you will rarely have to decapitate the drones more than twice any season, for it is natural for the bees to store honey at the top of the outside frames, and as soon as honey is stored in the comb, that ends the drones for that year. In this way *you* will have no black drones, and if your neighbors do not keep bees, and there are no colonies of black bees in the timber in any woods not nearer than four miles of you, you will have little difficulty in having the majority of your queens purely mated, after which your apiary will keep Italian, no matter whether you increase to 1,000 colonies, or allow them to remain at their present number.

But should there be black and hybrid drones in your neighborhood, do not become discouraged, for your young queens would give, practically speaking, pure Italian drones, so that the next year the most of your queens will mate with these, when, by selection after you have seen the progeny, you can soon have the apiary stocked with none but Italians.

By adopting this plan of rearing your own queens you

will get a schooling which, in after life, you would not part with for a considerable amount of money.

Onondaga Co., N. Y.

(Continued from page 502.)

No. 11.—Practical Lessons for Beginners in Bee-Culture.

BY J. D. GEHRING.

"I BELIEVE, Mr. Bond, I promised yesterday to tell you about robbing in the apiary, when I could get a good opportunity to do so. Well, I've just noticed something about this drone-beheading business that has brought the matter to mind again—I mean those shavings from the drone-comb which I carelessly allowed to fall to the ground at my feet. This is a good time to direct your attention to it, because I believe that fully seven out of every ten instances when robbing breaks out among bees, it is owing to some violation of an important rule—some thoughtless transgression of the law of vigilance, which in an apiary is always in force.

"The sight of those drone-head shavings reminds me of an experience with the worst case of robbing I have ever been compelled to deal with. It was my first experience in api-surgery—the process of drone-decapitation. I went from hive to hive in my search for drones and sliced all the drone-brood I could find. I found it harder work than I had anticipated, and it took more time than I had counted on. And, several other things that proved to be of considerable importance in the course of that experience I failed to see—or foresee, I would better say.

"Well, I was at the sixth hive in the course of my work when, suddenly I thought—but the fact is I had been too eagerly engaged in the work to notice anything else going on around me—I heard a noise like that of a swarm of bees going over my head. For the first time since I had begun the job I looked up—and for about a minute by the clock I kept looking. It took that long for my startled mind to realize what was going on in my little apiary.

"Robbing!" I exclaimed aloud to myself, when I had finally taken in the most prominent signs and symptoms of the case.

"Under ordinary circumstances I would have tried to figure out the cause, or course, of this sudden outbreak, before doing anything else—my mental machinery is built that way—but I had quick wit enough, for the moment, to see that this was no ordinary case of robbing. This was plainly evident to the naked eye, for the air was full of bees, as I had never seen the like before; and they were darting—not merely flying, mind you, Mr. Bond—in every direction, and with a noise which I can't describe, but which sounded in my ears for weeks after.

"It is not usual for me to lose my head on the occasion of an accident, or a sudden, unexpected, frightful occurence, but on this occasion I was completely 'upsot' for—I can't exactly say how long. I noticed, however, that the greater part of the flying bees were near the two hives I had first operated on, so I went there to investigate. On my way I noticed a great many bees crawling around on the ground, and, on looking down to find out the cause, I saw that they were busy on the drone-brood shavings. These, it seemed, contained more or less honey, and as I had carelessly scattered them about each of the six hives treated, they made quite an attractive mess for the bees.

"But that was not all, as I found when I came near the end of the row, for there stood the second of those hives *open*—I had forgotten to replace the cover. This alone is often enough to start robbing in an apiary, but here it was aggravated by a combination of circumstances. These circumstances, however, could not have combined to operate against me had I been thoroughly informed as to certain details. I did not then know that the afternoon would not do as well as the forenoon for such a job of manipulation. Neither did I then know that it was not a good time for such a job when all the colonies are comparatively idle and apparently quiet. And I was also ignorant of the fact that bees are never idle or quiet during the daytime unless there is no honey in the fields.

"The fact is—and I may as well own it, Mr. Bond—I had at that time a slight attack of a complaint known as 'big-head.' Nearly all bee-keepers have had it, more or less severely—usually during a fever caused by unexpected success. I imagined that I had already mastered the intricate science of bee-culture when, in truth, I had many of the most important things yet to learn. I had made the mistake, too, of supposing that because I had read two or three kinds of bee-books I had nothing more to learn. I have since learned that many essentials in the course of successful bee-keeping can not be found in bee-books—not because those who write bee-literature are not thoroughly informed, but because many things come to our knowledge by experience, and can be learned in no other way.

"'Well,' I said to myself—I thought out loud during that exciting experience, Mr. Bond—'this *is* a sweetness! If only I knew what to do! But I can't think of a blessed thing I ever knew about robbing! And it's getting worse and worse all the time, too! The fracas is on all along the line—and getting worse at the other end, I declare!'

"At this moment I heard some one shouting my name, and on looking around I saw my dear little wife—any possible source of help was *dear* to me just then—standing in the kitchen doorway, gesticulating, and shouting: 'Shut the hives, John! Shut the hives, quick!'

"I didn't at once understand what she meant by 'hives,' not being aware that more than one was open, but I had sense enough return to me so that I could see the hive right before me and the cover by its side. I had been too completely dumbfounded to see that first important thing to be done toward controlling the robbers! I quickly put that cover on, and then looked to see where my wife had seen another all the way from the house. She pointed toward the end of the line of the six hives. I ran in that direction and slapped the cover on that hive in a jiffy. In the first flush of excitement ensuing my discovery of robbing going on, I had left the hive without replacing the cover, and the robbers had discovered my mistake before I did."

"What did you do next?" queried Mr. Bond. We were walking toward the honey-house as I was talking; and, as I opened the door and asked him to walk in and take a seat, I answered:

"The next thing I did was promptly to execute another suggestion my wife made to me, and partly executed herself when she came running toward the apiary with an armful of quilts and pieces of carpet, calling as she ran, 'Here, John! Take these and throw one over each of the hives most in danger. It will confuse them a little for a while, anyway.' And then she wanted to know whether she hadn't better get her bee-veil and help me get out of the scrape! I tell you, Mr. Bond, it never pays to ignore our women-folks in this business. They remember things better than most of us men, and they nearly always know what to do in sudden and perplexing emergencies."

"Did that put a stop to the robbing?" Mr. Bond inquired, as though not having heard the last sentence.

"Well, no," I replied, "not altogether; though it seemed to bother the robbers for awhile, as my wife suggested if would. But by this time I had recovered my wits, and was now ready for further development. I didn't dare to close, or even to contract very much, the entrance-spaces of the hives, because of the heat in the hives and outside. I had smothered a fine colony in that way the year before, and by the same process also ruined two supers full of nicely finished section-honey.

"Not knowing what I could do further to stop the robbing I got my sprinkling can and for an hour or more kept the hives where the bees were the most aggressive wet all the time. Soon after, night came on; and that put a stop to the business for that day.

"Before I went to bed that night I got out my bee-journals and looked them over for articles on 'robbing.' I found some good things on the subject, and stored them 'for keeps' in my memory. No doubt I had read these articles when the numbers containing them first came to hand, but not having an acute case of robbing on my hands at the time I did not *charge* my memory with the subject-matter, and hence my forgettery took charge of it instead.

"Well, one of the articles on robbing advised the putting of straw or hay in front of the entrance of the hive that was being robbed, and then keeping it wet by sprinkling water on it at frequent intervals. That struck me as a good idea and I determined to try it next day if robbing recommenced.

"Another of the articles said, 'Take the hive that is being robbed and carry it into your cellar, if you have one and it's handy, and leave it there for a few days.' I thought that was a capital scheme, too, and resolved to try it next day, if necessary.

"In another article I found the prescription highly recommended, to change the location of the beleaguered hive, reverse the entrance-front, and cover the hive with a

piece of carpet to disguise it. I am not now certain that this triple-advice was given by the same author, but I am sure that I used it next day in that combination, and with satisfactory results.

"The straw recipe I used next day on those of the hives that were not badly afflicted, and it worked splendidly. I liked it especially because it called for no lifting or carrying of the heavy hive. I have often tried that since, and always with success.

"But the cellar recipe took the cake, of course—that is, as far as effectiveness went. It suited me too, because I wanted to test all these methods, and because I had a cellar; and also because it happens to be handy for emergencies caused by bee-fracases, as you probably remember, Mr. Bond.

(To be continued.)

The People of Rochester, N. Y., vs. The Bees.

On page 483 we published a statement from General Manager Secor concerning the lawsuit between the city of Rochester, N. Y., and Mr. W. R. Taunton, a bee-keeper residing there. The National Bee-Keepers' Association helped defend Mr. Taunton, and of course won as usual.

Mr. Secor has forwarded the following copy of the brief submitted by Attorney Frederick L. Dutcher, counsel for the defendant:

POLICE COURT, CITY OF ROCHESTER, N. Y.
THE PEOPLE, *vs.* TAUNTON.

Memorandum for Defendant.

The defendant was arrested upon a warrant based upon an ordinance passed by the Common Council of the City of Rochester on April last, which provides in substance that no bees shall be kept or maintained within the limits of the City of Rochester, *without the permission in writing of the lot owners owning lots within one hundred feet of the hives within which any bees are desired to be kept or maintained.*

At the trial, the defendant moved that the warrant be dismissed and the defendant discharged, upon the grounds:

First.—That the ordinance upon which the warrant is based and which defendant is accused of violating, *is unconstitutional and void.*

Secondly.—That the ordinance in question is not fair, impartial and reasonable, but *is oppressive.*

Thirdly.—That the ordinance in question *is an unlawful attempt on the part of the Common Council to delegate its powers to private individuals.*

Upon this motion, the defendant will not discuss the question whether the Common Council has power to prohibit the keeping of bees, as that question does not arise under this ordinance.

In the first place, the question whether the ordinance is unconstitutional, or whether it violates some other principle of law is a question of law for the Court, and must be decided irrespective of the facts in any particular case.

In *People ex rel. Kemmler v. Durston*, 119 N. Y., at page 578, the Court says: "If it can not be made to appear that a law is in conflict with the Constitution, by argument deduced from the language of the law itself or from matters of which a court can take judicial notice, then the act must stand. The testimony of expert or other witnesses is not admissible to show that in carrying out a law enacted by the legislature, some provision of the constitution may possibly be violated."

In the *Matter of Elevated Railroad*, 70 N. Y., at page 327, the Court holds that a Court can not take proof of facts for the purpose of showing a statute valid and regular upon its face to be unconstitutional.

So that the question whether the ordinance is fair, impartial and reasonable must be determined from the ordinance itself.

In *Beach on Public Corporations*, Sec. 512, the learned author says: "It is a well-settled principle that a municipal by-law or ordinance must be reasonable. The Courts will decline to enforce it, it will be declared void as a matter of law."

And again at Section 514, the same author says: "It is, of course, a question of law and not of fact for the Court, and not for the jury, whether any specific ordinance is so unreasonable as to be void."

FIRST.

The ordinance is passed under the so-called police powers of the City, but the police powers of the City are not above the Constitution and are subject to the control of the Courts.

In *Re Jacobs*, 98 N. Y. 98, at page 110, the Court says: "These citations are sufficient to show that the police power is not without limitations, and that in its exercise the legislature must respect the great fundamental rights guaranteed by the Constitution. If this were otherwise, the power of the legislature would be practically without limitation. In the assumed exercise of the police power in the interest of the health, the welfare or the safety of the public, every right of the citizen might be invaded and every constitutional barrier swept away. Under the mere guise of police regulations, personal rights and private property can not be arbitrarily invaded, and the determination of the legislature is not final or conclusive. It matters not that the legislature may, in the title to the act or in its body, declare that it is intended for the improvement of the public health. Such a declaration does not conclude the courts, and they must yet determine the fact declared and enforce the supreme law."

SECOND.

The ordinance is unconstitutional for two reasons. First, it is an attempt to take property without due process of law; and, secondly, the ordinance denies the equal protection of the law, as guaranteed by the fourteenth amendment to the United States Constitution.

In *Stewart v. Palmer*, 74 N. Y. 183, due process of law is defined as follows: "Due process of law is not confined to judicial proceedings, but extends to every case which may deprive a citizen of life, liberty, or property, whether the proceeding be judicial, administrative, or executive in its nature."

In *Re Jacobs*, supra, the facts were that the legislature passed a statute prohibiting the making of cigars in tenement houses in New York and Brooklyn. The Court of Appeals set the statute aside as unconstitutional upon the ground that it was depriving persons of property without due process of law. The Court says, at page 104: "What does this act attempt to do? In form, it makes it a crime for a cigar-maker in New York and Brooklyn, the only cities in the State having a population exceeding 500,000, to carry on a perfectly lawful trade in his own home. Whether he owns the tenement house or has hired a room therein for the purpose of prosecuting his trade, he can not manufacture therein his own tobacco into cigars for his own use or for sale, and he will become a criminal for doing that which is perfectly lawful outside of the two cities named—everywhere else, so far as we are able to learn, in the whole world."

In the case at bar, the ordinance makes it lawful to keep bees in one part of the city, provided certain consents can be given; but to keep the bees in another part of the city would be unlawful if the consents were not obtained.

The Court further says in the case cited, at page 105: "The constitutional guaranty that no person shall be deprived of his property without due process of law, may be violated without the physicial taking of property for public or private use. Property may be destroyed, or its value may be annihilated; it is owned and kept for some useful purpose, and it has no value unless it can be used. Its capability for enjoyment and adaptability to some use are essential characteristics and attributes without which property can not be conceived; and, hence, any law which destroys it or its value, or takes away any of its essential attributes, deprives the owner of his property."

In *Butchers' Union Co. v. Crescent City Co.*, 111 U. S. 746, Judge Field says: "The common businesses and callings of life, the ordinary trades and pursuits, which are innocent in themselves, and have been followed in all communities from time immemorial, must, therefore, be free in this country *to all alike upon the same terms.* The right to pursue them without let or hindrance, except that which is applied to all persons of the same age, sex and condition, is a distinguishing privilege of citizens of the United States, and an essential element of that freedom which they claim as their birth-right." In the same case, Judge Bradley says: "I hold that the liberty of pursuit, the right to follow any of the ordinary callings of life, is one of the privileges of a citizen of the United States, of which he can not be deprived without invading his right to liberty within the meaning of the constitution."

In the case at bar, the ordinance attempts to deprive a person of his property and prevent its use at the mere will of a private individual. The duly constituted authorities of the City do not act in the matter at all, but turn over their powers to private citizens who are taking the liberty at their own sweet will to destroy the property

belonging to another. Can there be any question but that this is taking property without due process of law?

Secondly.—The ordinance is unconstitutional because it denies the equal protection of the law, as guaranteed by the fourteenth amendment of the United States Constitution. Upon this point, we will call the attention of the Court to the case of *Yick Wo v. Hopkins*, 118 U. S. 356. In this case, the Board of Supervisors of the City and County of San Francisco passed an ordinance which provided that it should be unlawful for any person to establish, maintain or carry on a laundry within the corporate limits of the City of San Francisco, without first having obtained the consent of the Board of Supervisors, except the same be located in a building constructed either of brick or stone. It will be noticed that in the San Francisco ordinance the consent of officials was required, while in the ordinance which we are discussing, only the consent of private individuals is required. An ordinance which requires the consent of officials is certainly more reasonable and proper than one which requires the consent of individuals. Public officials are bound not only by the dictates of their consciences, but also by the weight of their judicial oath, and are responsible to the people for their actions; while private individuals can act at their own sweet will. In speaking of this ordinance passed by the Board of Supervisors of San Francisco, the Supreme Court of the United States says, during the progress of its opinion: "We are not able to concur in that interpretation of the power conferred upon the supervisors. There is nothing in the ordinances which points to such a regulation of the business of keeping and conducting laundries. They seem intended to confer, and actually do confer, not a discretion to be exercised upon a consideration of the circumstances of each case, but a naked and arbitrary power to give or withhold consent, not only as to places, but as to persons. The power given to them is not confided to their discretion in the legal sense of that term, but is granted to their mere will. It is purely arbitrary and acknowledges neither guidance nor restraint." And, again: "It does not prescribe a rule and conditions, for the regulation of the use of property for laundry purposes, to which all similarly situated may conform. It allows without restriction the use for such purposes of buildings of brick or stone; but as to wooden buildings constituting nearly all those in previous use, it divides the owners or occupiers into two classes, not having respect to their personal character and qualifications for the business, nor the situation and nature and adaptation of the buildings themselves, but merely by an arbitrary line, on one side of which are those who are permitted to pursue their industry by the mere will and consent of the supervisors, and on the other those from whom that consent is withheld, at their mere will and pleasure. And both classes are alike only in this: that they are tenants at will, under the supervisors, of their means of living." And, again: "For the very idea that one man may be compelled to hold his life, or the means of living, or any material right essential to the enjoyment of life, at the mere will of another, seems to be intolerable in any country where freedom prevails, as being the essence of slavery itself." And, again: "The same principle has been more freely extended to the quasi-legislative acts of inferior municipal bodies in respect to which it is an ancient jurisdiction of judicial tribunals to pronounce upon the reasonableness and consequent validity of their by-laws." And, again: "Though the law itself be fair on its face and impartial in appearance, yet, if it is applied and administered by public authority with an evil eye and an unequal hand, so as practically to make unjust and illegal discriminations between persons in similar circumstances, material to their rights, the denial of equal justice is still within the prohibition of the Constitution." And, again: "The discrimination is therefore illegal, and the public administration which enforces it is a denial of the equal protection of the laws and a violation of the fourteenth amendment of the Constitution. The imprisonment of the petitioners is therefore illegal, and they must be discharged."

No authority is needed except the case cited. A reading of the complete opinion of the Supreme Court of the United States will show that that high judicial authority condemned in the most severe terms ordinances like the one which we are discussing, as being not only not reasonable, but a denial of the equal protection of the law.

THIRD.

The ordinance is void, because it is not fair, impartial and reasonable, but is oppressive.

In *Beach on Public Corporations*, Sec. 90, the author says: "A city, although fully authorized to enact ordinances, can not pass unreasonable ones. The ordinance of a city must be reasonable. It must not be oppressive; it must not be partial or unfair." The same author says, at Section 512: "It is a well-settled principle that a municipal law or ordinance must be reasonable."

In *Dillon on Municipal Corporations*, Sec. 319, the author says: "In this country, the courts have often affirmed that general incidental power of municipal corporations to make ordinances, but have always declared that ordinances passed in virtue of the implied power, must be reasonable and consonant with the general powers and purposes of the corporation, and not inconsistent with the laws or policy of the state."

In the case of *Yick Wo v. Hopkins*, supra, also held that municipal corporations must be reasonable.

Can it be said that the ordinance which we are discussing is reasonable?

It does not provide that citizens living within one hundred feet must give their permission to keep bees, but that the owners of lots wherever they may live must give such permission. These owners might live in New York, Buffalo, or in Europe, and have no personal interest in the matter, and yet their permission is required. Again, under this ordinance, permission might be obtained, and then, immediately afterwards, the lots within one hundred feet of the place where bees are to be kept might be sold, and permission would have to be obtained of the new owners.

Under this ordinance, a person who owns a lot in the outskirts of the City, a mile from any dwelling, might not be permitted to keep bees, while a person living in a thickly populated district can keep bees, if he get the requisite permission. In other words, under this ordinance, the owner of a lot in the center of a city or adjoining a school-house, may be permitted to keep bees, while a person owning a lot in the outskirts of the City would not be permitted to keep bees. In fact many illustrations might be given, and will readily suggest themselves to the mind of the Court, of the purely arbitrary character of this ordinance and the unjust manner in which it may operate. The private citizen, from mere caprice or ill-temper or bad feeling against the bee-owner may deprive him of the use of his property.

In fact, the right depends wholly upon the personal inclinations and caprice of adjoining lot owners.

FOURTH.

The ordinance in question is an unlawful attempt to delegate the powers conferred by law upon the Common Council to private individuals.

Article Two, Section 12, of the City Charter, provides that the Common Council "has authority to enact ordinances not inconsistent with the Laws of the State, for the government of the City and the management of its business, for the preservation of good order, peace and good health, for the safety and welfare of its inhabitants and the protection and security of their property."

This statute plainly contemplates that the discretion as to whether a certain thing is or is not a nuisance must be vested in the Common Council; but in the ordinance in question, that body has not determined that bees are a nuisance, or that they should only be kept in certain prescribed portions of the City, but the Common Council has turned its powers and its discretions entirely over to private individuals. That the Common Council has not passed upon the question as to whether or not bees shall be kept, is illustrated by the fact that with the requisite permission of adjoining lot owners, bees can be kept in every lot in the City of Rochester. There is an ordinance in force which provides against intoxication in public places; but suppose an ordinance should be passed which would provide that a person might be intoxicated in a public place, provided he could get the written permission of every person owning property within a certain distance of the place where he desired to get drunk—could such an ordinance be supported in the Courts? And yet, such an ordinance would be precisely like the one in question.

In *Birdsall v. Clark*, 73 N. Y. 73, the Court holds that public powers of trusts devolved by law or charter upon the Common Council or governing body of a municipal corporation, to be exercised by or when and in such manner as it shall judge best, can not be delegated by such body to others.

The ordinance is not a determination by the Common Council that the preservation of good order, peace and health, the safety and welfare of the inhabitants of the city, and the protection and security of their property demands that bees shall not be kept; but the ordinance leaves such questions entirely to the determination of private individuals. Under the ordinance, there is absolutely no restriction to the keeping of bees in any part of the city, providing the bee-owner can obtain the consent of his adjacent lot owners. There can be no ques-

tion but that under the several points made above, the ordinance in question is void and can not be enforced; and it follows that the defendant should be discharged.

FREDERICK L. DUTCHER,
Attorney for defendant.
Rochester, N. Y.

John A. Barhite, of Counsel.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Late Transferring—Feeding for Winter.

1. Would you advise me to transfer (by the "Heddon short method") those colonies in box-hives to dovetailed, with full sheets of foundation?

2. If I should, and they failed to gather stores enough for the winter, what should be done with them?

NEVADA.

ANSWERS.—1. It will probably be better to wait till next year before transferring.

2. If you transfer upon foundation, and the bees do not gather enough for winter, the only thing is to feed. The danger is that you will feed too late. Better feed in August or early September, then if the bees do gather enough no harm will be done.

Transferring Bees.

I have just transferred a colony of bees as described in the catalog of the A. I. Root Co., and while the bees are working well in the new hive, there seem to be a great many hanging around the old box, going in and coming out, with dead bees and larvæ. Is this right? The old box is about 10 feet from the new hive. MISSISSIPPI.

ANSWER.—As you say you have just transferred, I take it that the second drive has not yet been made, in which case it is all right that the bees left in the old hive should be still at work there. As to their carrying out dead bees and larvæ, there may be something wrong and there may not. A few dead bees and larvæ do not signify. If many, the danger is that you drummed out too close, not leaving enough bees in the old hive to keep alive the larvæ and young bees just ready to emerge. But there is nothing to be done for that now. Ten feet is rather too far to have the old hive from the new one. One or two feet would be better; then when you make the second drive the bees would more readily find the new hive than if their location were ten feet away.

Sowing Sweet Clover Seed.

When is the best time to sow sweet clover for bees, in the fall or spring? MICHIGAN.

ANSWER.—I don't know. Sweet clover is a contrary sort of thing. It seems to grow with no trouble under the most adverse circumstances (as by the side of a hard road where some effort is made to suppress it), and seems to fail where it has the very best chance. One year I sowed a piece with oats in the spring, the ground having excellent preparation. A fine stand came up, although it did not make a strong growth that summer. The next spring not a plant was left to tell the tale. Every one winter-killed. I think the soft ground was against it, allowing it to heave. Last spring I sowed a few acres with oats, and it never came up; at least not more than two or three plants to the square rod, leaving me $6.50 out for the trial. I'm inclined to believe that either fall or spring will do; only I think the ground ought to be very solid. From what I have seen, I suspect that the ideal thing would be to sow it in the fall on ground that is not even plowed, allowing cattle or horses to run over it and tramp it in. I don't believe many have made as bad a failure with it as I have, and I wish some one would tell me what was wrong.

Caging the Queen During the Honey Season.

1. If you wish to cage a queen in the honey season, do you cage her in a fine wire cage, or in a cage made of queen-excluding zinc?

2. If you had a queen that you could not use at the time, if you put her in a wire cage, and then in a hive, would the bees feed her? If so, what kind of wire should be used?

3. If you had a young swarm, and only wanted what honey you could get that season, would you cage the queen? If so, in what kind of wire? SMITH HILL.

ANSWERS.—1. In a wire cage.

2. Generally they would feed her. You could give her a supply of honey or candy, and then she would be independent. Put her in a cage of common wire-cloth about 12 meshes to the inch.

3. I think in most cases I would not cage the queen. It is possible, however, that if the honey harvest lasts not more than three weeks, you would get more surplus by caging the queen in common wire-cloth, or excluder zinc.

Increase from Poor Honey-Gatherers.

I read on page 451 about a colony that gave twice as much surplus honey as the average does; and if an increase was made by swarming, it would be by the poorest surplus gatherers. Do you think that a good colony could not come from the poorer surplus gatherers? I do, for I bought a colony of bees where two small swarms clustered together, which were hived in an eight-frame hive. The colony got a good start last fall, but this spring it was weak, I think, because their queen was old. My bees did well this summer (for I think they have 50 pounds of extracted white clover honey), considering where I have kept them. MICHIGAN.

ANSWER.—I'm not sure whether I get the drift of your question, but I certainly should not expect as good results, other things being equal, to breed from the queen of a colony of poor gatherers, as to breed from the queen of a colony of good gatherers.

When to Buy Bees in Box-Hives, Etc.

1. If I bought bees in box-hives (the old kind), could I buy early next spring, and transfer to dovetailed hives before swarming-time?

2. What month in the spring would you advise buying?

3. How much sealed honey should be in eight frames to winter one colony? Give about the depth, as I am no judge of pounds in frames, as I am a beginner.

SOUTH CAROLINA.

ANSWERS.—1. Yes.

2. If close by, say less than a mile, better buy before the bees get to flying much. If more than a mile away, then it doesn't matter if you do not buy till time of fruit-bloom. That's safer than to name the month, for months change.

3. Three or four of the outside frames should be pretty well filled with honey, and the others should have honey to a depth of two or three inches.

Hiving Swarms.

1. I noticed in answer to Ben Avon, in Gleanings in Bee-Culture, page 239, about hiving bees on empty combs, he puts four frames in the hive and then fills it with dummies. What are dummies?

2. Do you put on the hives of prime swarms surplus fixtures as soon as they are hived, with a honey-board between the brood and surplus? TENNESSEE.

ANSWERS.—1. Take a board the size of your brood-frame without top-bar, and nail on it a top-bar, and you have a dummy. I prefer a dummy half an inch shorter than the brood-frame. In thickness it may be anywhere from ¾ inch to an inch. If thin, it is better to have a cleat on each end to prevent warping.

2. When working for extracted honey it is advisable to have an excluder over the brood-chamber, in which case the surplus arrangements may be put on at time of hiving. In working for comb honey with full-sized starters in sections,

excluders are not necessary; and when excluders are not used then the surplus arrangements should not be put on the swarm for perhaps two days, so as to allow the queen time enough to become established in the brood-chamber below. If the surplus arrangements are put on at time of hiving there is danger of the queen going above, if no excluder is present.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

CO-OPERATION IN COLORADO.

W. L. Porter's account of co-operation in Colorado, on page 437, seems to show considerable success—a sort of boy-woodchuck success—had to succeed, their local prices being cut down so low, and likely to go lower. Their being driven by their distance from market to act together in selling may eventually have an important effect on honey-selling almost everywhere. The boy who does not *have to* catch woodchuck may also go in to catch one.

WIRE-CLOTH OVER SMOKER-VALVE.

So to keep that bungling "other fellow" from half spoiling your smoker-valve with his bedaubed finger-tips—so simple—just a bit of wire-cloth put over. I'd go to work and thank Harry Howe for that, only no one ever uses my smoker but myself. Page 444.

BEARS AND TURTLE'S EGGS.

We sometimes envy those who have the very best ranges of the world without thinking of the drawbacks. Where the ocean occasionally blows in almost *ala* Galveston, and bears are pretty sure to come in, and both contingencies must be provided against—well, unless a fellow was pretty enterprising he might wish himself somewhere else. Stands seven feet high and bear-fence of barbed wire—say, dear Boss, ask him for a photograph of it.

From Mr. Gifford's saying that sea-turtle's eggs are about as large as hen's-eggs but not as good, I judge they use them—the better article being scarce in howling wildernesses. In a swamp near Fort Wayne, Ind., there used to be enormous turtles whose correspondingly big eggs provoked one to see if they could not be eaten. I have eaten them, but only a pretty hungry man would vote them worth eating. Page 444.

NATURAL INCREASE BY NATURAL SWARMING.

Dr. Miller touches a very sore spot, on page 445. Natural increase by natural swarming has many things in its favor. Perhaps the most important thing (most important if true) is, that the man who undertakes to improve bees, improves them the other way—*disimproves them*—and nature's process will obviate the most of that. But we have to pause before the fact that the best colonies seldom swarm, and therefore we do not get increase from them but from poorer ones.

"DEAR BOSS" OR "DEAR BEESWAX."

And so instead of saying "Dear Boss," shall I say "Dear Beeswax?" Page 450.

THE CROPS OF WAX-SCALES.

If it takes 1,474,560 wax-scales to the pound, and the bee produces six at a crop, the number of crops is 245,760. Connndrum: How many crops will one bee produce as the result of a flow of honey lasting say seven days? I was going to say about three. But that would call for 81,920 bees. What's the matter? At least three things may be the matter. Possibly the secretions bees add to the scales in making them up into finished wax largely increase the weight. Perhaps it seldom happens that so much as a pound of wax is made during one run of honey. And perhaps my three crops from each bee should be increased. Who knows in how rapid succession crops of scales are raised? Possibly it may be already in print somewhere.

Let's begin again at the other end of the puzzle. A five-pound swarm (22,000 bees) need, in addition to the start their keeper gave them, a pound of wax to fill their chamber. If they really need 245,760 sets of scales, and nearly but not quite all the bees secrete, that is twelve crops for each bee. So it looks as if when once begun the scale harvests came oftener than once a day. Page 446.

EVILS OF IN-BREEDING.

Anent the Simpson article on in-breeding, I am glad to see in-breeding opposed. Decidedly harmful—and "just awfully" handy. Often the ambitious breeder seems to have only the choice of breeding close, or giving up the thing he is working at. It is in us all to minimize too strongly the evils of a practice which we find very convenient indeed. The wise man should deplore necessary evils, not warp his judgment into praising them.

I can hardly agree that long tongues are merely a symptom. The long pole brings down the persimmons; it is not a symptom of the gale which blows them down. Pages 453-5.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

KINDNESS TO ANIMALS.

I have already, perhaps more than once, referred to thoughtful care and kindness in the treatment of our animal friends. I love the "Beatitudes"—the preface to that grandest, sweetest and best of sermons, "The Sermon on the Mount"—the incomparable 5th chapter of Matthew, with the chapters following. I once heard a superintendent of public instruction, of Michigan, say that he would not grant a teacher a certificate who could not repeat the words to "America." Such a one would be incompetent in the line of patriotic instincts.

One is certainly better equipped for all life's struggle who has the "Beatitudes," not only fast locked in memory, but also enshrined in his heart. It is suggestive that of the nine Beatitudes the fifth, or pivotal one (and the one next to "Blessed are the pure in heart; for they shall see God," which is surely best, as it may be said to insure all others) is this: "Blessed are the merciful, for they shall obtain mercy." The dear old Book does not leave us in the dark as to who the merciful man is, or at least as to his character. The merciful man is merciful to his beast. It always makes me grieve to pass a horse whose ribs cry out loudly against his care and treatment. Just think of twenty-eight—a horse has fourteen pairs of ribs—living indictments against one for breaking the 5th Beatitude! What a comfort to drive, to care for, to be with our horses, when they are fat, round, sleek, and beautiful. The added pleasure is enough to urge one to give the care necessary to secure the blessed results. It is real economy thus to feed and care for these faithful servants.

The well-conditioned horse is comfortable, and discomfort preys upon energy and competency. The ribless horse, so far as vision is concerned, is the efficient horse.

Then, too, we ought to give earnest heed to our own reputation. The same blessed Book says: "Avoid the appearance of evil." How sadly must everyone be judged—who drives a lean, hungry, decrepit old horse. I can but think that such a one may well pray, "Lord be merciful unto me a sinner." Cruelty to a man, who can speak and defend his right, is indefensible; to a child unable to defend himself, it is despicable. What shall we say, then, of him who neglects or mistreats his horse or cow? These faithful friends can neither defend themselves nor voice their ills. Shakespeare might well have said of such a one, as he did of the miser, "I'd rather be a dog and bay the moon, than such a man." Surely, if we could all realize that our own pleasure, our profit, our reputation, were being weighed in the balance, we would clothe up the uncanny old ribs of the faithful old horse, and would feel more like men, in the assurance that we were not treading under foot that best precept—the golden rule.

All this is written because of an object lesson which our canyon experience brought to us. Each of two men—both splendid men—had their horses with them. These men were both of our party. They are men of high Christian character, and possess, deservedly, the love and sincere respect and esteem of all their neighbors and acquaintances. Yet in one respect there was a contrast. The horses of one were fat, fine and beautiful. Their round, plump bodies, and fine sleek, shining coats, showed that they were subjects of thought-

APIARY OF WM. W. COREY, OF HARTFORD CO., CONN.

ful care and attention. There seemed to be a happy understanding between horses and master. Feeding and watering were always prompt, regular and generous. When out with the saddle, in climbing the steep, rugged mountain trails, a halt and rest was often necessary. If these were at all prolonged, the cinch was loosened. No wonder those horses were ready for the hardest climb, and stoutest pull, and it was a pleasure to note the pride which all in the family seemed to feel in these horses. I believe the horses felt the appreciation. It is a united family, and the horses may be counted in.

The other man's horse had ribs—great, big ribs—twenty-eight of them all standing out in boldest relief. He also had a sore shoulder. The feeding was not prompt, was not regular, was, I dare say, at times omitted entirely. This horse did not seem in love with life. Were I his master I should fear he did not love me. I am sure I should take no pride in driving him. And I hope I should have disturbing dreams, in which the 5th "Beatitude" and the Golden Rule would play a conspicuous part. I doubt if this horse was uncinched in the rest times, as he bore his owner or other up the steep mountain sides. "Old Don" refused to draw his load as he came to the steepest, hardest climb. He seemed to say, "I can't do it; it is too hard."

I wish again to repeat the lines of Eliza Cook:

"Oh, if to us one precious thing
Not theirs—a soul—is given:
Kindness to them will be a thing
To bear it up to heaven."

MUSIC IN THE HOME.

I wonder if we all appreciate the added charm that music gives to the home. Charles Darwin made the lamentable confession that, whereas he, as a boy and young man, was very fond of music, art and poetry, he gave his life so exclusively and so energetically to scientific research that he lost his love and taste for the other things. He did such grand work in science that we may the less regret the atrophy of the other qualities. He regretted this withering-up process, and said that were he to live his life over, he would give time to cultivate these other desirable faculties of his being. Does not the parable of the talent and the napkin urge us to round out our being and lives by cultivating all our faculties? I have had a somewhat similar experience to that of Darwin, and I also regret it. In my early life I was not only very fond of music, as I am still, but I quickly learned music. Hearing a piece sung once or twice, would make me able to sing it correctly. My daughter now sings, and some of her pieces delight me beyond expression. Yet, though I have heard them sung a score of times, I can not sing them. Were I to live life again, I should keep this music in my soul, rich and full. I have missed much.

Again, I know of several who seemed to have little taste or aptitude in music, who, by study, have become fine musicians. Music is so rich a gift and so priceless an adornment in the home that its cultivation may never wisely be neglected. It refines performer and listener. It gives the healthiest and best recreation, the keenest and most wholesome entertainment. If anything will fasten the love of children in the home, and stay their footsteps from wandering away, it is music.

I wish all our home circles might be the center of fine and oft-recurring concerts, that all the members might be the more knit into one bond of love and good fellowship.

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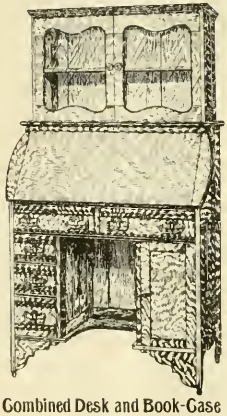

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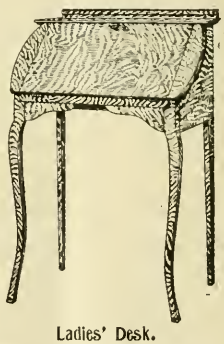

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ORDERED that the defendant (Joseph M. McCaul) and each of his agents, servants and employees and all other persons acting under his authority and direction be, and he and they are hereby restrained and enjoined from showing, displaying or otherwise using during the pendency of this action in or upon any papers, devices, sign or signs, or otherwise, in the business conducted by the the defendant at No. 120–122 West Broadway, in the Borough of Manhattan, City of New York, or elsewhere the name of "Hildreth" separately or conjunctively with any other name, designation or description."

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GENERAL ITEMS

Bees Did Fairly Well.

The bees did fairly well here the forepart of the season on white clover, but it all dried up. We did not have any rain for three weeks. It has rained now, and I think we will have some buckwheat honey yet.

JOHN C. SCHUEMAN.

Monroe Co., Wis., July 26.

From an Amateur Bee-Keeper.

Number 30 of the American Bee Journal is just at hand; it is a splendid paper, and I would not be without it. I have taken it for four years now. Although I am an amateur I take great pleasure in its columns. I now have about 25 colonies, with 12 of them in old boxes of all sorts, and from which I get very little honey; but I have taken about 70 pounds from some of the others this season—all alfalfa honey. J. ROY BRADSHAW.

Humboldt Co., Nev., Aug. 2.

Drouth and Little Honey.

There is but little honey in southern Iowa, and in Missouri I think it is still scarcer. I had about 1,000 pounds from colonies enough to have stored 3,000 in a good season. The gathering came to a sudden stop in the early days of July. I have had swarms some seasons as late as July 15 that filled the brood-frames of a Jumbo hive. Our July was the hottest and driest anybody remembers. No rain from June 21 to July 28. We are having some rain now. Corn will make less than half a crop. Potatoes and garden vegetables are wiped out. Swarming was quite free in June. I will have to feed some of the swarms now. I am hoping for a fall flow. If it does not come I have the choice of heavy feeding or starved bees. EDWIN BEVINS.

Decatur Co., Iowa, Aug. 9.

Bees Have Done Well.

My bees have done well this season, giving me a nice surplus of white honey, with the fall flow now commencing, and prospects good. E. B. TYRRELL.

Genesee Co., Mich., Aug. 12.

Bees Selecting a Home Before Swarming.

Rip Van Winkle says, on page 429, he does not think that bees select their future home, for certain reasons. And I know they do, under certain conditions. Still, as a rule, they do not.

Years ago I kept bees in Canada, in box-hives. All increase was by natural swarming. When the hives became crowded I raised them on blocks at the corners. The day before a first swarm issued, the bees that were clustered on the outside of the hive would go into the hive, fill themselves with honey, and pack closely in and under the hive. I had a colony prepare for swarming, and it set in to rain, and continued more or less cold, windy and wet for eight days. Then the bees swarmed, and went directly to their selected (or where their selected) tree stood. The sun came out for half an hour the day previous to their swarming, and the scouts went out and selected the tree. I had two men chopping, and they reported that they had found a swarm of bees. So we cut the tree down, and not a bee was there. It was raining lightly when we cut it down. In that case the bees all let go at once, almost like emptying a bucket of water by turning it upside down. They never even stopped to circle about, but went straight for their selected tree. They hazed about for quite awhile, and finally clus-

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Bees that Have a Record

(See page 459 American Bee Journal.)

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tered, and we hived them and took them home.

Another similar case was in Iowa. A swarm was prepared to come out, but the weather turned bad for eight days, and when they finally came out, they left in just such a hurry. I ran about a mile into the woods and came up to them as they were going into their tree. They could be heard by their loud hum or roaring at a distance of ten rods. I ran in the right direction, and then would stop and listen. The last run I made I passed them about six rods. Of course I cut down the tree at once, and took them home.

A man at Tustin reported a swarm of bees in his pile of fruit-boxes; that was four years ago, and he wanted me to get them, so I went, and no bees were there. But they came the following day. The man saw the scouts there, and supposed they had already taken possession. They were probably scouts from a clustered swarm. I do not believe one swarm out of a thousand looks up its locality before clustering, in this climate, as there is no necessity for it on account of the weather being always favorable.

I found a swarm on the 19th of last April. They had been clustered for two days, had daubed the limb of the tree where they clustered all white with wax. I now have eight colonies. DR. E. GALLUP.

Orange Co., Calif., July 15.

No Rain for Over Two Months.

There has been no rain in this vicinity in over two months, and corn is ruined; there are few vegetables, and bees may have to be fed for winter. Water in wells and cisterns is giving out, and fruit is scarce. Honey will bring a good price, or should do so.

E. T. FLANAGAN.

St. Clair Co., Ill., Aug. 7.

The "Jouncer"—by the Original Jouncer.

Upon receipt of the American Bee Journal for July 5, I was a little surprised—gratified more than a little, and actually felt flattered over the kind words that Mr. C. Davenport uses in his enthusiastic praise of my quick method of getting bees out of an extracting-super—via the "jouncer."

The "jouncer," in my practice, was devised for the purpose of quickly ridding a shallow Heddon super of bees, and the crud-affair illustrated in Gleanings in Bee-Culture some three years ago, worked so well that I made a neat, substantial device, constructed with a cloth tray upon which all of the bees were caught, reducing the killing of bees to a minimum, and getting them in such shape as to dump them on the top of the brood-frames instead of scattering them all over the ground.

It seems to me that three years after description is a long time to wait for bee-keepers to catch on to such a very short cut.

But when I consider that my own enthusiasm over my device was somewhat subdued by the sort of half-way ridicule with which my statement in relation to its benefits were received by some of my brother bee-keepers here, I do not wonder, then, that only one man, so far as heard from, has taken kindly to it.

Perhaps the name "jouncer" has something about it that excites the risibilities, or the fact that the Rambler used it had some adverse effect. Any way, the bees are not shaken out, they are given a sudden, quick jar, or for a more euphonious word, "jounce," and the device, a "jouncer."

I have used the principle more or less for the past few years, and have kept mum about it for about three years.

When I left my own apiary in the southern end of this State, in charge of other parties, I had some misgivings about turning over my jouncer to them. As the parties were very sensible young men, I ran the risk, first showing them by practical demonstrations the use of the device and its effects. After the extracting season had well advanced, I received a letter from the parties, saying, "We are falling in love with your shallow super and the jouncer." That settles it as far as the Shaffner Bros. are concerned; they know a

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If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.25 to

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FOR HIS

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WALTER S. POUDER.

512 MASS. AVE. INDIANAPOLIS, IND.

A Superior Red Clover Queen

(AN UNTESTED ITALIAN)

For sending us One New Subscriber and 25 cents ($1.25 in all.)

We arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us this season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he uses is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

All queens guaranteed to arrive in good condition, and all will be clipped, unless otherwise ordered.

We would like each of our present readers to have one or more of these fine Queens. Simply send us the name and address of a new subscriber for the American Bee Journal for one year, and 25 cents extra, and the Queen will be mailed to you. Our queen-rearer is now caught up with orders, and expects to be able to mail them hereafter within 48 hours after we receive the order. He is in another State, and we will send him the Queen orders as fast as we get them at this office. He is prepared to rear and mail a large number.

The cash prices of these Queens are $1.00 each; 3 for $2.70; or 6 for $5.00.

Send all orders to

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

good thing after they have used it, and have gotten rid of the slow process of brushing bees from the combs.

It is just possible that others besides Mr. Davenport have used the plan, or have tried to use it; perhaps a comb or two has broken down in the first attempt. I think they are more likely to break in a frame deeper than the Heddon—that may have condemned the plan in their estimation; but what if a comb does break now and then, has there not been an immense saving of time? And the more the plan is used, the more skill acquired and less combs broken.

I think Mr. Davenport is entitled to some credit for the use of the principle, for I have used it only on shallow supers, while he goes further and uses it on deeper frames. Any way, I hope the plan will be useful to other bee-keepers. J. H. MARTIN.

Fresno Co., Calif.

60 Pounds Red Clover Per Colony.

G. M. Doolittle says in the Progressive Bee-keeper:

For the past 20 years red clover has failed to blossom in central New York, owing to an almost infinitesimal insect which works in great numbers in each head, just before the blossom would appear. This causes the head to harden and no blossom to open. But this year, owing to our continued rainy weather, or some other cause, we had fields red with clover bloom again, and when the hot weather came on the bees began to roll in the honey at a rate never known here before, outside of a good basswood yield, and for three or four days it was equal to any basswood yield. I could leave combs of boney out in the bee-yard all day long and not a bee look at the honey, though several might be seen collecting propolis off the ends of the frames where they come in contact with the hive. And as brood-rearing was pretty good, 37 days before this clover yield began, from 60 to 70 pounds of section honey is the result from colonies which had not been robbed of bees and brood to make nuclei with, to rear queens for the trade.

I think I hear some one asking about the "long-tongues." Well, I have not had time to have any measurements taken, as I have been too rushed this season hardly to sleep nights, but if any have long tongues all must, as I see little difference in the working of any colony which was in a proper condition to work. And this from the first crop of red clover. The most claimed by those having red clover queens is, that they work on the second crop, that having shorter corollas than the blossoms of the first crop.

The Root German Steam Wax-Press.

This is now put upon the market by the A. I. Root Co. Copying after the Germans, who have been ahead of us in this matter, a very substantial wax-press has been completed, which is perhaps an improvement upon any in Germany. It is of large size, holding more than a bushel of combat a time. Its manipulation is given in Gleanings in Bee-Culture as follows:

To use, the can is placed on a common stove, and is filled with about three inches of water. The wire-cloth basket is filled with old comb, slumgum, or any wax refuse. The water is brought to a boil, when the basket with its contents is set down into the can. The handle is unscrewed until the pressure-plate rests against the cover-plate. This is then set down on top of the can, and the water is allowed to boil. The steam generated passes all through the mass, and when the wax in the basket settles down, more refuse is put in. After all the free wax is steamed out, the screw and plunger-plate are turned down. One person grasps the two handles of the can, and another one turns the screw down until a tight squeeze is exerted. It is then left for a little while when another

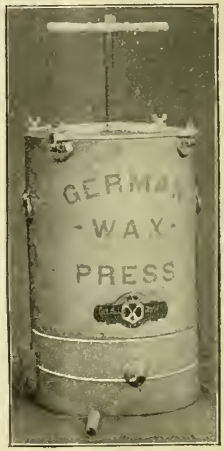
squeeze is applied, and so alternately for a period of 15 or 20 minutes. The screw is then raised up, and the slumgum is poked over with a stick, and again pressure is applied. By this time every particle of wax is pressed out. The basket is dumped, and the operation is repeated as before.

It is advisable to use a sheet of burlap or cheese-cloth to line the inside of the basket during the process of rendering, otherwise the cocoons will be forced between the meshes of the coarse wire-cloth. A finer mesh of cloth would not stand the enormous pressure, and hence burlap or cheese-cloth in connection with a coarse wire-cloth should be used.

Comb and Extracted Honey from the Same Hive.

Louis Scholl, as he tells in Gleanings in Bee-Culture, produces both comb and extracted honey from the same colony. He uses divisible brood-chambers, and early in the season (which in his Texas climate is in February) he sees that each colony has sufficient stores and a good queen. He says further:

After all are in proper order they are let alone for a few weeks; and when the weather is warm and favorable, and honey coming in (we generally have enough honey coming in all along to keep up brood-rearing, and sometimes we get some surplus), we again go through all; and, taking off the top (or third) story, we go through the brood-chambers, putting all combs with honey in the top, or



Catnip Seed Free!

We have a small quantity of Catnip Seed which we wish to offer our readers. Some consider catnip one of the greatest of honey-yielders. We will mail to one of our regular subscribers **one ounce** of the seed for sending us ONE NEW subscriber to the American Bee Journal for a year with $1.00; or will mail to any one an ounce of the seed and the American Bee Journal one year—both for $1.30; or will mail an ounce of the seed alone for 50 cents. As our stock of this seed is very small, better order soon.

GEORGE W. YORK & CO.,
144 & 146 Erie St., - CHICAGO, ILL.

QUEENS! QUEENS!

From honey-gathering stock. Tested, $1.00; untested, 75 cents. "SHADY NOOK APIARY."
JAMES WARREN SHERMAN,
29A13t SAG HARBOR, NEW YORK.

Low Rates to Buffalo Pan-American.

The Nickel Plate Road are selling tickets at exceptionally low rates to Buffalo and return, good for 10, 15 and 30 days. For particulars and Pan-American folder of buildings and grounds, write John Y. Calahan, General Agent, 111 Adams St., Chicago. 'Phone Central 2057. City Ticket Office, 111 Adams St 19—3t

ALBINO QUEENS If you want the most prolific Queens—If you want the gentlest Bees—If you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.
11A26t J. D. GIVENS, LISBON, TEX.

Please Mention the Bee Journal when writing Advertisers *****

the third super, and all the empty combs in the two chambers of the brood-nest, arranging the combs so as to spread the brood, and to push brood-rearing, as we want a great force of bees just at the beginning of the main flow, which with us is about the first of May. The other super, containing the combs of honey, is now set on top. This operation will generally be done at about swarming-time in the month of March, sometimes sooner or later, depending on the earliness or lateness of the season; and at this examination, if some colonies are overpopulous, combs of hatching brood are taken from them and used either to strengthen weaker colonies or for making nuclei. If some of the colonies have already started queen-cells they are destroyed or otherwise as the case may be. I have already said something about swarming; but with such a large brood-chamber, and providing plenty of room for the queen, there will be very little if any swarming; but I gave the foregoing for the "exceptions."

Now comes the time of our main flow, which is just beginning; and if everything has been favorable we shall have strong colonies with a large force of bees; and, besides having had plenty of honey for breeding purposes, they will have some surplus stored in the shallow extracting-super above.

We must now hurry and get on the comb-honey supers; so, taking the section-supers, which we had all nice and ready, with foundation in the sections, and an extra Danzenbaker reversible bottom-board, we proceed as follows:

First set one of the section-supers down, and on this set the upper (or third) case of the hive, without removing the cover. Then move the two lower chambers, bottom-board and all, to one side of the stand, and in its place put the extra Danzenbaker bottom—the deep entrance-side up—putting on this the upper one of the two brood-chamber cases, and on this the lower one, thus cutting the brood-nest in two, thereby putting the honey in the upper frames in the center of the brood-nest for the bees to remove, while the upper frames now contain brood.

The two other supers, the section super with the extracted-honey super above it, are now set on top of the brood-chamber. Here are two features with which I am greatly pleased; namely, in having bees first used to storing in shallow extracting-supers; and when the section-super is put in between this and the brood-nest, they go right on to work in the sections without losing any time; and I have also found that nicer and fuller boxes of honey can be produced between such a super than where the cover is directly over the sections. Then by using shallow extracting-supers during the time before the main flow, as we have honey coming in nearly all the time, and sometimes a little more than is necessary for brood-rearing, it is stored in these supers, leaving plenty of room for the queen, while otherwise it would have to go to waste or the bees would store it in the brood-chamber, thereby crowding out the queen. With a set of these frames above, too, if a colony has more honey in the brood-chamber than is needed, the bees, when providing room, will carry the honey up into these frames, also bringing the brood up closer to the top of the frames.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

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Chicago to Buffalo and New York. Special low rates and favorable limits to all points East. Call on or address John Y. Calahan, General Agent, 111 Adams St., Chicago. 21—3t

SUPERIOR
Red Clover Queens

We have obtained, this season, 150 pounds of comb honey per colony, one-third red clover honey. Untested, 75 cents; ½ doz., $4.00. Tested, $1.00; ½ doz., $5.50.

LEININGER BROS., Ft. Jennings, O.
34Etf Please mention the Bee Journal

Wanted.

Comb and Extracted Honey. Will buy your honey no matter what quantity. Mail sample of extracted, state quality of comb honey and price expected delivered in Cincinnati. I pay promptly on receipt of goods. Refer you to Brighton German Bank, this city.
C. H. W. WEBER,
2146-2148 Central Ave., CINCINNATI, OHIO.
29Atf Please mention the Bee Journal.

WRITE US

If you have large or small lots of HONEY to sell.

State quantity, how put up, kind of honey, price expected, and, if possible, mail sample. We pay spot cash.
Reference—Wisconsin National Bank.

E. R. Pahl & Co.
34Atf MILWAUKEE, WIS.
Please mention Bee Journal when writing

Wanted Comb and Extracted Honey!
State price, kind and quantity.
R. A. BURNETT & CO., 199 S. Water St., CHICAGO
33Atf Please mention the Bee Journal.

Wanted—Honey.

Car Lots or otherwise; will pay highest market price, spot cash. Address, stating quantity, quality, and price desired at your station. Will send man to receive when lot is large enough to justify.
THOS. C. STANLEY & SON,
31Atf FAIRFIELD, ILL.
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FREE FOR A MONTH ....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper published in the United States.

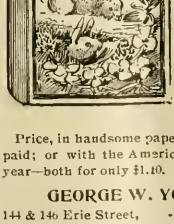
Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

Please mention Bee Journal when writing.

Standard Belgian Hare Book!



BY M. D. CAPPS.

THIS book of 175 pages presents a clear and concise treatment of the Belgian Hare industry; its growth, origin and kinds; the sanitation and construction of the rabbitry; selection of breeding stock; care of the young, feeding, diseases and their cures, scoring, marketing, shipping, &c. First edition of 50,000 copies was sold in advance of publication.

Price, in handsome paper cover, 25 cents, postpaid; or with the American Bee Journal one year—both for only $1.10.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Aug. 3.—For choice white comb honey the demand is equal to the receipts at 15c per pound, but off grades are slow at 1 to 3 cents less. Extracted is selling more freely at 5½@6c for white; amber, 5@5½c. Beeswax steady at 30c.
R. A. BURNETT & CO.

CINCINNATI, Aug. 10.—The honey market is rather dull on account of the warm weather. Extracted sells only to manufacturers from 5@6c; better grades alfalfa water-white from 6@7c; white clover from 8@9c. Fancy white comb honey sells from 13½@15½c.
C. H. W. WEBER.

BOSTON, Aug. 3.—The honey market is practically nominal, demands being nothing owing to the warm weather. We have had one lot of new honey in that sold at 17c. Extracted, light amber, 8c; amber, 6@7c.
BLAKE, SCOTT & LEE.

OMAHA, Aug. 8.—New comb honey is arriving by express in small quantities from Iowa and Colorado, and selling at $3.50 per case in a retail way. California extracted honey is being offered carlots at 4½@4¾c per pound, f.o.b. California shipping-points, but we have not heard of any sales having been made thus far. The production of extracted honey seems to be quite large this year in Colorado, Utah and California.
PEYCKE BROS.

NEW YORK, Aug. 7.—There is some demand for new crop of comb honey, and receipts are quite numerous for this time of the year. They have been principally from the South, but we are now beginning to receive shipments from New York State and near-by. We quote: Fancy white, 15c; No. 1 white, 13@14c; amber, 11@12c. No new buckwheat is on the market as yet, and we do not expect any before next month.

Extracted is decidedly dull. Plenty offerings, with only a limited demand, and quotations are rather nominal. We are selling at from 5@5½c, according to quality, and Southern in barrels at from 55@65c per gallon. Beeswax dull and declining; for the present we quote 27@28c.
HILDRETH & SEGELKEN.

DES MOINES, Aug. 7.—There is very little doing here in new crop of honey. Some small lots of near-by produced comb honey are on the market and selling in a retail way at $3.50 to $3.75 per case. We do not look for much trade in this line before Sept. 1. Our market does not consume a great deal of extracted honey.
PEYCKE BROS. & CHANEY.

DETROIT, Aug. 12.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.
M. H. HUNT & SON.

BUFFALO, Aug. 10.—Quite a good demand for fancy honey, 16@17c, and lower grades, 12@14c; old neglected. Advise moderate shipments only of new as yet.
BATTERSON & CO.

SAN FRANCISCO, Aug. 7.—White comb, 11@12½ cents; amber, 8@10c; dark, 6@7½c. Extracted, white, 5½@—; light amber, 4½@5c; amber, 4@4½c. Beeswax, 26@28c.

The market shows the same quiet state as for some time past, bids of wholesale operators not being of a character to encourage free consigning from producing points. The German steamer Hermouthes, sailing this week via the Cape Horn route for Europe, took 152 cases extracted honey, destined for Germany.

KANSAS CITY, Aug. 6.—Some very fine Missouri honey is now on the market, selling at 16@17c per pound for fancy white comb. Colorado and Utah shippers are offering new comb honey in carlots for first half of August shipment at 10c per pound for No. 1, and 9@9½c for No. 2, f.o.b. shipping-point. The market for extracted honey is as yet rather unsettled, asking prices ranging from 4¼@4½c, f.o.b. shipping-point. Buyers, however, seem to be in no hurry to make contracts.
PEYCKE BROS.

Wanted To Buy Honey
What have you to offer and at what price?
34Atf ED WILKINSON, Wilton, Wis.
Please mention Bee Journal when writing.

Wanted Fancy White Comb Honey in no-drip cases; also Extracted Honey. State price, delivered. We pay spot cash. FRED W. MUTH & Co., Front & Walnut Sts., Cincinnati, Ohio. Reference—German National Bank, Cincinnati.
28A17t Please mention the Bee Journal.

We have a Large Stock on hand and can ship promptly.

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OR ANYTHING YOU WANTIN THE BEE-KEEPING LINE.

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Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

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By Return Mail.

Italian Queens Warranted

Untested, 75 cts.; Tested, $1.00; Select Tested, $1.50. Half dozen or larger lots as may be agreed on. Address,

RIVER FOREST APIARIES,
RIVER FOREST, Oak Park Post-Office,
30Atf Cook Co., ILL.

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UNTESTED

Italian Queens Free

BY RETURN MAIL.

For sending us **One New Subscriber** for one year, to the American Bee Journal, with $1.00, we will send, **by return mail,** a fine Untested Italian Queen free. This offer is made **only to our present regular subscribers.**

We will mail one of the above queens alone for 75 cents; or 3 for $2.10.

Please do not conflict the above offer with the one on another page which refers to Red Clover Queens. For sending us **one** new subscriber at $1.00, and 25 cts., we will mail you free an Untested Red Clover Italian Queen.

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Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

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The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

Please mention Bee Journal when writing.

More Bee-Keepers' Paradises....

E. R. Root has just returned from a 6,000-mile trip through some of the best bee-locations in the world, and has already begun his series of write-ups, accompanied with fine photos, in Gleanings in Bee-Culture. The following editorial appears Aug. 1, and will give something of an idea of what he will describe:

Some little time ago I promised to tell about the bee-keepers' paradise in Texas. I have this on the docket, and it will appear as I take up the line of my travels. But since running across that paradise I have run into two or three others. There is one west of the Rockies, in Colorado, that is not yet overstocked with bees or bee-keepers; another one in Central Idaho—in fact, I do not know but the whole State. These will be described in turn. The fact is, millions of capital are being invested in irrigation; irrigation means alfalfa; alfalfa means a paradise for bees. But I found all along my trip that alfalfa-growing preceded bee-keeping by two or three years, for it seems to take about that length of time before bee-keepers find these gold-mines that have been hitherto unoccupied.

If you are dissatisfied with your present location, and for financial reasons, or on account of health, will be compelled to leave, subscribe for Gleanings in Bee-Culture, and learn something about the great South and the great West. There are many locations in the West that are not yet occupied—splendid bee-locations. If you wish to learn about them, send 25 cents for a six-months' trial subscription, or $1.00 for one year and one untested Italian queen. Or, send $2.00 and we will send Gleanings one year and one of our celebrated Red Clover Queens.

THE A. I. ROOT CO., Medina, Ohio.
(U. S. A.)

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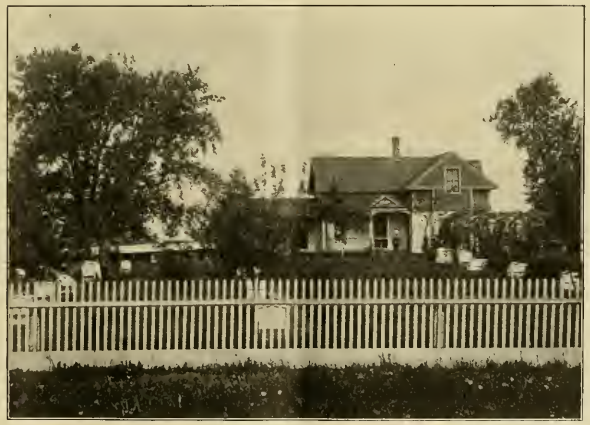
AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor

CHICAGO, ILL., AUGUST 29, 1901.

FORTY-FIRST YEAR
No. 35.

WEEKLY



APIARY AND RESIDENCE OF W. E. BAKER, LIVINGSTON CO., ILL.
(See next page.)

THE AMERICAN BEE JOURNAL.

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

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EDITORIAL STAFF.

GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

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To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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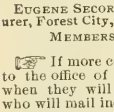
☞ If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Secor, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

ANOTHER FIVE NAMES have been received the past week at this office to be counted toward the 1,000 that we are working for as the membership in the National Bee-Keepers' Association. The second thousand will come more easily than the first thousand, we believe. But let's get the first 1,000 before starting on the second. Here are the honorable five:

SAMUEL SWITZER, JOHN M. SEILER, JOHN C. STEWART, P. MUNRO, GEO. W. HAUBER.

MR. C. P. DADANT AND WIFE made this office a pleasant call on Wednesday, Aug. 21, when on their way from a visit to Sturgeon Bay, Wis., where they had gone with Mr. Chas. Dadant (C. P.'s father), where he makes an annual stay to avoid the hay-fever which "gets" him every fall when he remains at his home in southern Illinois. The senior Dadant is now 84 years of age, and holds his health and strength exceedingly well. Mr. Dadant reports a fairly good comb-foundation trade the past season, though their honey crop was next thing to a failure.

HON. EUGENE SECOR, of Winnebago Co., Iowa, general manager of the National Bee-Keepers' Association, was recently nominated as representative to the next State Legislature from his district. He expects to be elected. But if he doesn't, he can still have his office of general manager for the bee-keepers, to fall back upon. This latter is a higher position, too, than the other one for which he is "trotting"—in our humble opinion.

MR. RUFUS PORTER, of Schuyler Co., Ill., although the inventor of the Porter bee-escape, has never used one about a hive in any manner whatever.

A VARIETY OF MINDS make up the readers of any periodical. The American Bee Journal is no exception. And the editor is likely to learn—sometimes in a very emphatic manner—just what some people think of him and the paper which he tries to edit.

But these things have never disturbed this particular editor, even so much as a slight bee-sting. He is trying to do what he considers his duty in furnishing a helpful, readable bee-paper every week, and so far as he has ability—both financial and intellectual—he will continue to do his best.

We are led to say that much on account of having received several letters recently which indicated great dissatisfaction with certain departments found in this journal. Now we, personally (and we think that ninety-nine one-hundredths of our subscribers would agree), believe that there is not a department in this paper but what is helpful. Of course, with some of the opinions expressed all may not agree. But that is all right. Few people agree in every particular. We read several different papers not devoted to bee-keeping, and they have many departments that we don't read at all. We don't feel compelled to read them, neither do we consider it our duty to write to the editor a complaining letter about them. It is our privilege to read whatever we like, and let the rest go.

Isn't it a little strange that certain so-called bee-keepers aren't real happy unless they can fling at somebody or something? Our experience has been that amoog the most unreasonable and cantankerous of them are found the little 2x4 fellows who think they are wonderfully wise.

Please do not misunderstand us—we welcome suggestions and criticisms that are sensible, and honestly intended to be helpful; but the kind that are sent in just to exhibit a mean spirit, or to show off some personal conceit or egotism, better be left unwritten, for they simply go into the waste-basket at once.

HONEY-BEES are winged merchants: they keep stores and cell their honey.

MR. JOCELYN S. MORALES, of Jamaica, has been asking for information concerning the Buffalo convention of the National Bee-Keepers' Association, Sept. 10, 11 and 12. He wants to attend. Good for Mr. Morales. We hope he will be present.

MR. W. E. BAKER'S residence and apiary are shown on the first page of this issue. He has been keeping bees for about five years, and has been very successful with them. For the past three years or more his daughter "Allie" has had entire charge of the apiary, Mr. Baker being a carpenter and devoting only a portion of his time to the bees. However, his number of colonies has so increased that he has decided to devote his entire time, hereafter, to bee-keeping and market gardening.

There are 50 colonies of bees now at work in Mr. Baker's apiary, and 17 swarms have been hived since spring, and these are also doing good work. He is making a specialty of section honey, which sells readily in the home matket at 17 cents per pound. White and sweet clover are grown abundantly in his locality, insuring a good crop of honey almost every year. By July 10 he had already taken 56 pounds of new honey from one colony. His average net profit per colony last year was $10.50. He says in writing to us:

"I keep the American Bee Journal on my table, and find it of great benefit to me in my work. I also have all the latest standard works on bee-culture in my library, and I read and study them, too. I use the Langstroth hive principally."

NEW KINKS IN THE APIARY are constantly being reported. Just think how many have been furnished by others who have reported them in your favorite bee-paper.

But perhaps you are using some apiarian kinks—best ways of doing things with bees—that have never been reported, so far as you know. Why not describe them for the benefit of others who have helped you by their hints and suggestions?

The American Bee Journal is here to help all by recording the best things from all. What can you offer that has been helpful in your own experience?

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., AUGUST 29, 1901. No. 35.

Editorial.

The Buffalo Convention opens a week from next Tuesday evening, Sept. 10, in the Lecture Room of the Buffalo Library Building, at the corner of Washington and Clinton Streets, near the business center of the city.

We are looking forward to the largest gathering of bee-keepers ever held in the East. Chicago has set the pace, there being about 500 in attendance at one evening session last year when the National convention met here. There never had been anything like it, we believe—at least not during the past eight years, as we have attended every national meeting during that time.

There are to be no papers read at this Buffalo convention. All the time is to be consumed in the discussion of questions. Such an impromptu program often proves to be one of the most interesting and profitable, when properly conducted. At least, the Chicago Bee-Keepers' Association has found it so.

But the main thing just now is to begin to get ready to go to Buffalo.

Pictures of Apiaries.—Some time ago we called for photographs of the apiaries of our readers, and quite a number have been sent to us. They will be used as time goes on. But we want more of them. If you have a picture of your apiary, why not send it to us? If it is not good enough to make a creditable engraving, we will tell you so, and return it, if you so request.

When sending, please remember to write your name and address on the back of the photograph, to avoid mistakes after we get it. Sometimes we receive several at one time, and desire to use every precaution to prevent errors.

Too Much Room in Spring has made sad the heart of H. H. Hyde, as he relates in the Progressive Bee-Keeper. It is the custom in his part of Texas to leave all the extracting bodies on the hives during the winter, as the easiest way to take care of them. He says:

I had been drifting along like the balance, giving the question very little thought until this spring, which was a very late, cold, backward spring—the bees being very late and dilatory in breeding up. I very soon noticed that the single-story colonies, or such as had only as much room as they could occupy as needed, were outstripping those that had a large surplus in room. Single-story colonies soon built up strong and ready for the honey-flows, while the others were dragging along, and for a good part of the time only holding their own, the result being that when the honey-flow came on they were weak and in no position to harvest the honey crop. I think that this has taught me a valuable lesson, and it should teach a lesson to every one else in this part of the country.

It is not difficult to understand why a colony should not do well in winter or early spring with a large empty space above it. It is too much like being outdoors. Heat rises, and in the winter time a thermometer will show the upper part of a living-room several degrees warmer than near the floor. If it is thought desirable to have vacant room in cool or cold weather, let it be below and not above.

Some Big Reports are assembled in The Pacific Bee Journal, including just a little to discourage bee-keepers in regions less favored than California. Emerson Bros. increased from 825 to 1,000 colonies, and took 40 tons of honey. C. A. Pyle increased 70 colonies to 102, and took 14 tons (400 pounds per colony.) J. B. McClure started in the spring with 230 colonies, and took 45 tons. A. Joplin with 225 colonies took 24 tons. G. Dombrowsky took 14 tons from 170 colonies, spring count. Mercer & Son, 50 tons from 525 colonies.

The Price of Honey is something that the bee-keeper sometimes finds it hard to settle upon. He is at a loss to know what price he should put upon his product when selling to a grocer or a private customer. It is a clear case that if he is to hold the trade of the grocer it will not do to sell to private customers as low as to the grocer, and it may be the better way to sell at retail at the same price as the grocer. But what shall determine the price to the grocer? G. M. Doolittle, in a conversation in Gleanings in Bee-Culture, discusses the matter very sensibly as follows:

"Find the quoted price for each grade of honey which you have, in the city to which you would send your honey, did you ship any away, and then figure the expenses for freight, cartage, and commission out, and you will have what it is worth at your nearest railroad station. For example, the rates on comb honey from Skaneateles to New York City is 50 cents per 100 pounds. As this is gross weight, we find by a little figuring that about 55 cents per 100 pounds is what the freight will cost, and the cartage will bring it up to 60 cents. Quotations during the months of July and August are generally little more than nominal; but from them we will guess that fancy honey will bring from 13 to 15 cents this year. But unless your honey is exceptionally fine I should not put it above 14. Then as most commission men charge 10 per cent for selling, we have $1.40 as the cost of selling 100 pounds. This, added to the 60 cents freight and cartage, makes a cost of about 2 cents per pound to get our product to market, and the cash for it in our possession, so that, on the basis of these figures, if you can not sell the honey you have in Skaneateles and surrounding towns at 12 cents per pound, you had better send it to New York."

"Well, I had never thought of reasoning it out in that way. I thought I ought to have 13 cents for it, or only one cent less than New York quotations."

"It is an old saying, that 'a nimble sixpence is better than a slow shilling;' and I fear you will find that your honey will go very slow at 13 cents, while it would sell rapidly at 12 cents. Then there is a possibility that, when the market comes to be established this fall, honey may go still lower than the nominal prices we have used, in which case it would be better to move it off rapidly by putting the price at 11½ cents, where a party would take a whole crate."

One phase of the case, however, Mr. Doolittle does not touch upon. In some places and in some years it happens that the local supply is so short that grocers send to the large cities for their supplies. In that case the bee-keeper would be foolish to follow the same rule as in years of full supply. It may be that grocers in Skaneateles never send to New York for honey, but it is certain that grocers within 100 or 200 miles of Chicago often send to Chicago for their supply. For the sake of illustration suppose the same thing should occur at Skaneateles. The crop is short, and the bee-keeper, following the general rule, sells to the grocers the few hundred pounds he has at 12 cents, the New York price being 14. When these few hundred pounds are exhausted, the grocers must send to New York for a further supply, paying 60 cents per hundred freight, making the cost a little more than 14½ cents per pound. By what rule of right should the bee-keeper sell to the grocer for any less than this price? If he sells at 12 cents he is losing 2½ cents on every pound he sells. So when the crop is so short that part of the grocers' supply must be secured from the large cities, the rule should be, not to deduct freight, commission, etc., from the city price, but to add to the city price the amount for freight.

Foundation Splints (instead of wiring brood-frames) have been warmly advocated by some bee-keepers. Splints about one-sixteenth of an inch thick are soaked in hot wax for the purpose. B. F. Averill says in Gleanings in Bee-Culture that he does not find it necessary to have the splints coated with wax. He merely presses the wooden splints into the foundation, having them longer than the inside depth of the frame so that the ends of the splints rest in saw-kerfs in the top and bottom-bar. They are put alternately on opposite sides of the foundation, six or seven to a frame, and no other fastening for the foundation is needed. One advantage is that the foundation is built right down to the bottom-bar.

Contributed Articles.

A Trio of Questions—Bee-Book Reviews.

BY PROF. A. J. COOK.

I REGRET if any have questioned the wisdom or courtesy of my reviews of the bee-books. I believe we all—Dadant, Cowan, Root, and myself—wish only the truth. If we have made mistakes—and, of course, we all have—we are only too thankful that they be corrected. I always rejoice with exceeding joy at any kindly criticism of my books, or my journalistic articles. As Mr. Root says, I am not always right. If any earnest student thinks me wrong, I like to know, that I may re-examine, re-test, and very likely find I am in error. Then how quick I will be to correct. I am sure all our authors in question are of like mind.

There are two good reasons why these criticisms should not be withheld, viz:

1. It brings mooted questions before us to be studied and rightly decided.

2. Though possibly corrected in latest editions, the hosts have only the older editions, and surely they are entitled to have their text-books corrected.

BEES EVAPORATING HONEY IN TRANSIT TO THE HIVE.

The criticism of my position on this subject warrants reply. Surely, I seem to be almost discourteous and dogmatic, when I say, "I know bees never do this." I do not mean to call in question the truthfulness of those who claim to have seen the falling mist. I have never seen it, though I have tried to discover it often. When I say, "I know," I refer to the appended theory, "Evaporation of the nectar." If some one should report seeing a bee carrying a large substance, and should add that he believed it an iron wedge weighing a pound, I would have no right to doubt the first part of the statement. I would have a perfect right to say I know regarding the second part.

The water of nectar holds the sugar in solution. It is a close integral part of the liquid. It can only be separated, so far as we know, by force, heat, or centrifugal motion. The bee can not possibly exert any of these on nectar within its honey-stomach. The statement of falling mist we may not dispute. The impossibility of evaporation we may affirm, and so say "we know." I repeat, if such droplets do fall from the bees, they are fecal, or respiratory—shall we say sweet atoms?

KILLING BEES TO STING.

I also speak with a sort of offensive dogmatism on this point. I have over and over suggested to my students to perform the following experiment:

With a glove on anger the bees, till a dozen, more or less, sting the glove, and actually pull out their stings. Then they were to catch as many from the combs by taking hold of the wings. Each lot was put into a cage provisioned with honey or "Good" candy. In a few days *all* of the first lot would die, while *all* of the others would live for weeks. Often the second cage was peopled with bees taken as they were about to fly from the hive in quest of nectar.

This explains why Mrs. Clark's bees that stung her cow to death were so generally destroyed. She reports that her apiary was seriously depleted, while thousands of bees were dead near the carcass of the cow. We all know that bees may sting and not lose the sting. Of course, such cases may not prove fatal.

SCIENTIFIC USE OF TERMS.

The dictionaries are conservative. They allow expressions which expert usage would not permit. Physiologists do not confound digestion and assimilation. It would not be exact, and so would be unscientific to do so. Is it not wise to go to the best and latest specialists in physiology for our definitions? If we do so we will say that digestion is to fit the food for absorption; and that assimilation has to do with metabolism or tissue changes. The entomologist is wise in not calling a larva a worm, for it is not. The entomologist might possibly use the term miller for moth; it would be rare, however, but he surely would not say moth-miller. He would as correctly speak of a female woman. Are we not wise to consult the up-to-date specialists in our use of scientific terms?

Los Angeles Co., Calif., May 20.

[The above article was received at this office the latter part of May, and through some unexplainable way was overlooked until now. We regret the long delay exceedingly, but trust it has not entirely lost its value.—EDITOR.]

Valueless Figures as Applied to Bees—In-Breeding.

BY G. M. DOOLITTLE.

FREDERICK B. SIMPSON is one of the comparatively new writers for the bee-papers, yet his articles are full of life and "spice." I have read them with much interest, and hope he will continue to write more and more, especially so as he may gain more and greater light on many of the vexatious problems with which apiarists have to deal. I judge from his writings that he is more thoroughly conversant with the vexatious problems relating to horses, than he is with those relating to bees. But if his life is spared he will doubtless learn all about many, if not all, of the bee-problems. And I bid him "Godspeed," that he may know of the height and depth, of the length and breadth, of this most fascinating, as well as often most vexatious, pursuit—bee-keeping.

On page 485, I find these words from his pen:

"In the American Bee Journal for June 20, Mr. Doolittle gave us some figures, but as he failed to notice that the mother of the drone with which a queen mates is entitled to probably the same share in the results [greater, in my opinion—G. M. D.] as the queen's mother, and also that the mother, or mothers, of the drones with which the breeding queen's daughters mate are also entitled to some share, his figures are of little value."

Just so. And even at the risk of appearing "sassy" I wish to say that his, "whereas the *real* cause of quality is skillful *selection*," and, "which qualities should be proved to be hereditary in each pedigree," as given in his "in-breeding" article, are equally of little value, as applied to bees. And all the illustrations which have been given in the bee-papers during the past 30 years, no matter by whom given, as comparing the breeding of horses, cattle, sheep, poultry, or swine, with that of breeding queen-bees, have been equally valueless, for there is no common ground (on which to stand) between them.

Suppose Mr. Simpson, with all of his horse knowledge, was obliged to turn his highly bred mare out into a 10,000 acre forest, filled with twice that many stallions of all grades, sizes and colors, she going way out of his sight and hearing before she met even a single one of them; of how much value does he think would be any words he could say about his "skillful *selection*," the "hereditary in each pedigree," or about the "mother of the stallion with which his mare mated?" The fact is, the breeder of queen-bees is "all at open sea" in this matter of the *selection of drones*, and all talk along the line of what drone any queen mates has no value attached to it whatever.

I have had a standing offer, out for years, of $500 to the man or woman who would give me a *practical* plan whereby I could mate a queen-bee to any *individual* drone, with the *same certainty* that a horse-breeder could mate his stock. And I know of several other queen-breeders who would give from that to twice that amount. Here is your chance, Mr. S. And not only a chance to get the $$$$$, but also to receive the heartfelt gratitude of thousands of bee-keepers of the present age, and those who are to come after us during the centuries yet to come. And, until this problem is worked out, it is useless to talk about "hereditary," "variations, how started, intensified, and established," or anything of the kind. And the "great big tent" plan, lately agitated, should it prove successful, would not at all meet the requirements of the Simpson horse-breeders, nor claim my $500; for that would be like turning out the mare, in the supposed case, into a forest containing from 50 to 1000 stallions, with the simple guarantee that they were raised from *one* mother. Some would be weaklings along some or all lines, lacking of proper form, proportions, etc., and would be something that no careful stock-breeder would ever listen to, although it might be somewhat of an improvement over the first, or what we now have.

Those who have accused the present race of queen-

breeders of simplicity, and lack of insight into matters which go toward making a scientific breeder of other stock, have failed, in that they have not taken this mating question into consideration as they should. I know that there are queen-breeders of the present time who have put as much thought into it, and spent as much time thoroughly to equip themselves, for their business, as any breeder of any of our domestic animals. And because they could not control the mating of their queens, is no sign why they should be classified with the ignoramuses in breeding domestic animals. This last is not thrown at Mr. Simpson, for he has treated the queen-breeders of the present very fairly, as far as I have seen.

And now I wish to say a word about that "in-breeding" matter. The reason, Mr. Simpson, why "the regular contributors to the bee-papers have not shown any desire to give us any specific aid on this subject," is, because, under the present state of affairs, there can not well be any *in-breeding* with our bees. With thousands and millions of drones, from scores and hundreds of hives, within a circle of five to ten miles in diameter, all congregating together, as the stallions in the forest, there is very little chance that any queen could possibly mate with a drone from her own mother. But suppose she did? Does not Mr. S. know that it would be only her mating with a *half*-brother? The drone is "the son of his *mother*," while the queen is the daughter of her mother and *father*. And as the drone is always, practically speaking, the son of his mother, in-breeding could be carried on for several generations, even with a full control of both queen and drone, before we could practically mate a brother and sister. And with the present conditions of mating, and with no chance at all of having "our say in the matter," it is simply folly for bee-keepers to talk about in-breeding, or to say very much regarding the mating of their queens any way, as to what drone she mated with.

The very best I have been able to do on the drone-side has been to keep a lot of drones from my best breeder, not nearly akin to the queen-mother, till fall, after other drones were killed off, then "hand pick" them, culling out all the inferior ones, when I had some reasonable assurance that queens reared at this time would mate with some of these drones, providing that some other colony within the circuit of the flight of "drone and queen," did not have a failing queen, or was queenless, in which case there would probably be hundreds of drones from such a colony to where there was tens of my hand-picked specimens.

I spent much of the time during the later seventies and early eighties in trying plans for the control of fertilization, thinking them out nights and trying them days, besides nearly all the plans advised by others, and after having to write "*A failure*" after each experiment, I settled down to try to do the best I could from the queen side, which thing I have been doing ever since. But I am free to admit, with Mr. Simpson, that, if I could have had complete control over the drone which mated with any queen during all these years, there would have been more "value in the figures" than there is at present; although a yield per colony of from 60 to 80 pounds of comb honey from red clover this year, with little or nothing 20 years ago, proves that I have not labored entirely in vain.

Onondaga Co., N. Y.

(Continued from page 534.)

No. 12.—Practical Lessons for Beginners in Bee-Culture.

BY J. D. GEHRING.

ONE of the most serious of the short-comings among those who keep bees on the farm is, that they don't know what to do with them in case of sudden emergencies. Robbing is one of the worst of these, please remember, Mr. Bond. Even if you reduce the present number of your colonies, as you now contemplate doing, down to one or two, you will need to be informed on this subject in order to be ready for business when the bees furnish the occasion.

"A few years ago I sold a colony of bees to a man who lives about a mile south of here. He said his wife was crazy to have some bees, but didn't know anything about managing them. But as he knew how, and wasn't afraid of them, he thought they could risk it to begin with one colony.

"Well, he took the hive I sold him home early in April. It was one of my best colonies. I instructed him how to make the bees mark their new location, and how to manage when a swarm should issue—the colony having a clipped queen.

"A large swarm was secured all right some time during the month of May, and the queen taken care of according to directions. When it was time to put supers on I went and showed him how to put them on. All seemed to go well, except that no honey was stored in the supers, save a few pounds during the late season. I also instructed both of them one evening how to prepare the colonies for wintering, either outdoors, or in the cellar.

"Well, they thought 'twould be a capital idea to try both methods of wintering, so he carried one hive—the one containing the new swarm—into the cellar, leaving the mother colony out in the cold. The phrase, 'out in the cold,' was severely emphasized by the fact—not known to me till the following spring—that my friend neglected to carry out my instructions as to how the hive should be prepared for the outdoor siege. He didn't even have time, he said, to take the super of nearly empty sections off before cold weather set in.

"One day in early April he came to me and requested that I should come and tell him what ailed his bees. The old colony, he said, was about played out, and the other hadn't seemed to act right since he had brought it out of the cellar.

"When I had finished examining those hives I found no queen in the latter, and not a spoonful of honey in the first, though I found a small and feeble-looking queen there. I told him to feed the honeyless bees at least a pint of syrup a day until fruit-trees were in bloom; and more if necessary. I furnished him a feeder and full instructions with it. But those bees were all dead when I saw him again—about two days later. His wife thought it was too expensive to feed bees so much syrup; and he, being more liberal, thought it took too much time. These points I got later, and from an outside source.

"I also furnished that man a frame of brood, put it in place for him, and cautioned him to watch the hive very closely until a new queen could hatch out. He didn't do it, although I had fully explained why it would be necessary. The result was that he lost that colony also, and as follows:

"One day, soon after giving him the foregoing advice, he sent me word by telephone to come up as soon as possible—the bees were robbing. When I arrived on the scene an hour later I found the reverse of his statement to be only too true: The colony had been robbed! Not only the honey was gone, but all the bees also.

"On inquiring for particulars, I learned that early that morning the colony seemed to be all right, and busily working—'lots of bees in the hive,' he said. Here, then, was an entirely new—new to me then—feature in this case of robbing. I couldn't conclude otherwise than that, after realizing that resistance was useless, or worse, that colony of bees made a full surrender, filled up with honey, as they do when about to swarm out, and went with the robbers in a body. This is not a groundless theory, but evidently a fact. There was no other sensible explanation, as but a few dozen dead bees were found near the hive, and none in it.

"Before I left for home I requested my friend to show me the place in the cellar where the colony had wintered. There I found the solution of the cause of the robbing: the dead queen on the cement floor of the cellar, among perhaps one-third of the bees, also dead! The foolish man had neglected to screen the bee-entrance, and had given the bees no ventilation in the hive; and he had also allowed too much light in that part of the cellar. And yet, to this day, those people can't understand how it was that I had an average, the previous season, of 75 pounds of honey to the colony, while they, only a mile away, and with two colonies of *my* bees, didn't get a pound!

"I have related this case in detail, Mr. Bond, to show how absolutely essential to success it is to attend to *all* the details in the management of even one colony. It is even more important when you have one or two only, instead of 50 or 100; because, if you lose one, or both, you are out of the business entirely."

"That's a very interesting case," remarked Mr. Bond; and instructive, too, as far as it goes. But in telling the story you failed to tell *me* just what you told your friend to do with those hives, to prepare them for winter, each in a different way and place. I think I ought to know those details," concluded Mr. Bond.

"I should have overlooked that fact if you hadn't mentioned it," I replied; "and it's the really valuable part of the story to you, too. Well, I can repeat the substance of

what I told that friend to do, and you can apply it next fall when it's about time to prepare your new colony out there for winter—either outdoors, or in the cellar.

"Be sure to avoid, at the outset, the too common mistake of waiting with the winter-preparation work until cold weather has set in. Here in Kansas it is generally safe to wait until the middle of October—seldom as late as November.

"The first thing you must do has to be done whether the colony is to remain on its summer-stand, or to be transferred to the cellar, and that is this:

"Prepare your bee-smoker as I have already shown you. Then you put on your bee-veil, remembering that at that season of the year the bees are much more touchy and liable to sting than during a honey-flow. Then you take your prying instrument and go out to your hive—smoker in full blast in your hand. If you prefer to quiet the bees before beginning operations you rap sharply a few times on the outside of the hive. Then you wait about five minutes for the bees to fill themselves with honey before you remove the cover in order to get at the super, which I will suppose you put on in time to catch the late surplus honey. This super you then take off, in the manner I have shown you, and set it, for convenience, on top of the hive-cover, where it is safe—if securely covered—until the rest of the job is done.

"You are now ready to loosen the ends of the brood-frames, with the tool you have brought with you for that purpose, blowing a little smoke over the top of them while doing so, should the bees crowd to the surface and get in the way.

"When this is done you begin the real business to which the foregoing was merely introductory; namely, you begin in the middle of the brood-nest and take out the frames, one by one, examining each in succession to find the queen. It is the queen you are really after, more than anything else, because the prime object of this whole performance is, to ascertain—not to guess at, as many keepers of bees do—the fact that the colony has a queen. It is very important for you to be sure of this, not because the colony couldn't live through the winter without a queen, for it can; but because they can't begin house-keeping operations in early spring without a mother-queen. You could not very well go through such an operation in February or early March in order to find out what you should know before you shut the hive for the winter. I hope you'll never forget that, Mr. Bond.

"Of course the fact will suggest itself that, after you have found the queen, and have estimated the honey in the frames to be fully sufficient to last them till spring, you replace all the frames and cover them snugly with a piece of fine burlap. You then put a rim—such as I use in tiering-up supers—on the hive and pack the space inside with chaff or soft forest-leaves. Next you put on the hive-cover, placing a stone on top of it to keep it in place; contract the entrance-space to about the right width to suit the weather at the time, and your work is done for outdoor wintering in Kansas.

"For cellar-wintering you do no packing on top. Neither do you take the hive to the cellar before cold weather has begun. Then you remove the entrance-blocks and tack a piece over the brood-frames for the same purpose. Prepared in this manner your bees are safe in a dry cellar. But if the cellar is too cold—that is, below 45 degrees at any time—place a piece of burlap or a piece of old carpet over the screen on top of the frames. It will keep them warm without depriving them of needed air.

"I have kept bees both ways for years, and have never lost any in winter-quarters on account of cold, want of air, lack of food, or on account of inexcusable neglect.

"Here endeth the lesson."

Mr. Bond took dinner with us and then departed for home, taking his colony of bees with him, as happy as I had ever known a farmer to be.

(The End.)

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Mulberries for Bees.

What Dr. Peiro says on page 525 leads me to think that it is possible there may be two kinds of white mulberry, and if any one is thinking of planting largely it would be well to make sure of having the kind that he speaks of as bearing luscious fruit. In Pennsylvania I was familiar with the black mulberry, of which I was very fond. When I came to Illinois I found white mulberries growing wild (not in this county, but further south), but the fruit was insipid, and to my taste hardly fit to eat. I do not suppose it would be difficult to get bees to work on the crushed pulp of mulberries or any other fruit, but the question is whether what the bees would store therefrom would pay for the gathering and crushing. It would probably take a good deal to make old bee-keepers believe that bees could store good honey from the pulp of any fruit.

C. C. MILLER.

Milkweed Pollen-Masses on Bees' Feet.

I send a sample bee. By using a microscope you will see a foreign substance attached to its feet, which prevents walking or working. The other bees are pulling them out, and carrying them off in large numbers. What is it? What particular plant or flower do they get it from?

PENNSYLVANIA.

ANSWER.—The milkweed is the culprit—*Asclepias Cornuti*. The pollen-masses become attached to the feet to such an extent that the bees appear not to be able to climb upon the combs. At any rate, their sisters drive them out. It is possible that enough is gathered from the milkweed more than to pay for the damage done; at any rate the loss is not serious, and there is nothing you can do about it.

Loss in Introducing Queens.

A queen sent me arrived in good shape, and I introduced her according to directions, but the bees did not receive her. I have kept the colony supplied with fresh eggs to prevent laying workers, if possible, and to give them a chance to rear a queen, but the queen-cells they have started have all been with eggs that were too old. I examined them carefully before I introduced the queen, and destroyed all their queen-cells, and I am very sure there were no laying workers.

1. Do you suppose the presence of fresh eggs in the hive would prevent the workers from laying?

2. What is my trouble? NEW HAMPSHIRE.

ANSWERS.—1. Laying workers are not likely to occur if the bees are kept supplied with eggs or young brood.

2. In asking what is your trouble, you probably mean to ask what was done wrong that resulted in the killing of the queen you were trying to introduce. Perhaps there was nothing at all wrong on your part. The attempt to introduce a queen is not always successful. Nineteen queens out of twenty may be accepted all right and the twentieth rejected, although exactly the same plan was used with the twentieth as with the other nineteen, and no one can tell just why the twentieth failed. I don't understand what you mean by saying they started queen-cells with eggs that were too old. When bees are without a queen they rarely start queen-cells from the egg; nearly

always from larvæ ; and an egg could not be too old unless dead. Neither would they start a queen-cell from too old a larva if constantly supplied as you say with fresh eggs. But the presence of eggs and young brood would be no help toward the acceptance of a queen, for they might think they could rear a queen of their own, and thus reject the one offered.

If you want to take the trouble, you can make the acceptance of a queen a sure thing. Take two or three frames of just-hatching brood, with no unsealed larvæ, put them in a hive without any bees, put in the queen and shut the hive up bee-tight, and keep it for five days in a warm place in the house, or over a strong colony with wirecloth between, so that the heat but no bees can pass up through. You can make sure of frames of the right kind of brood by putting frames of brood eight days in advance in an upper story over a queen-excluder.

Late Swarming.

July 25 I opened hive No. 1 and killed the queen ; July 27 I gave a new queen to the colony, and Aug. 10 this same colony swarmed. I caught the queen and had the bees to return to their hive. Two days later I opened the hive and found one queen-cell ; I cut it out, and handed it to my daughter, when, to her surprise, the queen left the cell and was born, as it were, in her little hand. I caged the young queen and returned the old one.

1. Now, why did they swarm so late, when the flow is almost over with us here in Pennsylvania, and starvation staring them in the face ?

2. Is the young queen of any value to me, as I see no drones flying any more ? PENNSYLVANIA.

ANSWERS.—1. You do not say whether you know that the queen which you caught Aug. 10 was the same one you introduced or not. It is possible it was the same, and that the bees were nearly ready to swarm when you introduced her, but the break in laying postponed their action. The flow being near its close would not hinder the swarming, so long as the flow continued, for the bees might expect it to continue indefinitely. If, however, it was a normal prime swarm, the old queen issuing with the swarm, a young queen would hardly have issued from the cell so soon as two days after the issuing of the swarm. It is more likely that the queen you introduced was killed, and that a young queen issued with the swarm, for when young queens are reared upon the killing of a queen, the colony is likely to swarm when it might have had no notion of swarming if the old queen had remained. Bees seem to be more reckless about swarming with a virgin than with a laying queen.

2. The young queen is probably all right. Even when you think all the drones are killed off, a few are still likely to be flying until cold weather actually comes. Indeed, they are sometimes allowed to go into winter quarters.

Fall Transferring.

I have several colonies of bees, purchased in box-hives, and I want to transfer them to dovetail hives. Would you advise me to do so immediately, or would it be preferable to wait until spring ? CALIFORNIA.

ANSWER.—You will probably do well to wait till spring.

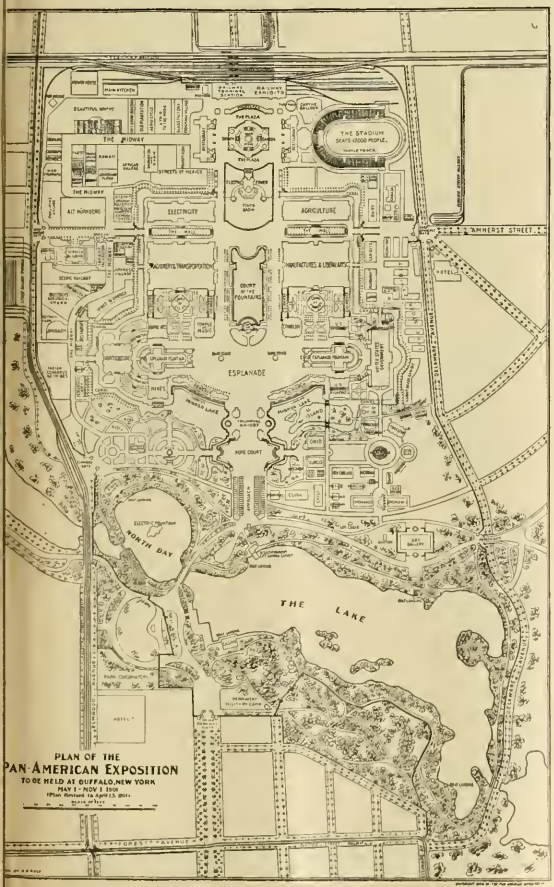
An Introducing and Swarming Experience.

1. I had a colony swarm a week ago (June 15,) and when I hived them everything seemed to go all right. But, alas, towards evening they killed their queen, so I let it stand a day and I introduced a laying queen. But they killed her, too, so I was almost crazy, because it was a valuable queen. So I got a little hybrid queen, laid her above the frame for a day, and then I put her in an introducing-cage, but they would not eat her out. So I let her out myself, and she went to laying. Now the point is this: Yesterday they cast a big swarm. What was the object of their swarming ? They had the old queen with them, because she was clipped. They have five sealed queen-cells. They had supers on, and lots of ventilation, and they had not worked in the super very much.

2. Do you think they will go right to business ? There was a flow from basswood and button-ball. ILLINOIS.

ANSWERS.—1. I don't know. When a strange queen is introduced, either because the bees are not quite satisfied with her, or for some other reason, they very often start queen-cells, and when these cells are sealed they sometimes swarm. But if I understand you correctly, these cells were in the hive of the swarm, and they were sealed within a week after the swarm was hived. This could not be, unless you gave a frame of brood to the swarm, in which case cells were probably started at once when the brood was given. Of course, these cells were not started from the egg, but over larvæ already there, and cells being called post-constructed or emergency cells.

2. Very likely they will now settle down to business.



Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

PETS IN THE HOUSEHOLD.

In "The Home Circle," page 457, Prof. Cook talks entrancingly of pets. I wish for our profit to add somewhat thereto. It's a scandal on the human judgment that we do not *choose* our pets (at least in most cases) instead of so uniformly letting them choose us. At our house the children, with great excitement and glee, drove home from the fields an enormous puppy some one had cast off. Nearly starved to death, poor fellow. Afflicted with a sort of St. Vitus dance, making it impossible to hold himself still. No beauty that any one should desire him. Backbone seems to think dragging on the ground the progression for the midships of a dog. He looks a cross of St. Bernard and Dachshund, And now (to share my private troubles with you, brethren) I am disgusted to find that this repulsive, diseased and useless giant is likely to become a permanent member of the household. Professor, can't you train folks a little, in regard to this admirable longing of humanity for pets, so they won't choose *such* pets in such a kind of way?

SWARMS SELECTING THEIR HOMES.

As to how bees select their home in a tree, all theories seem open to strong objection; but the stubborn fact remains that they do select them somehow. John Kennedy, page 459, contributes a novel fact; but I am not sure it gives us much additional light. I mean the case where half a swarm went straight to a hollow tree 60 rods away, and the other half followed five hours later. Apparently those bees, many of them, knew the place beforehand. They seem to have had two young queens, although that is not sure. Testimony about bees being seen frequenting a hollow, and coming to occupy it later, seems to be sufficiently abundant to show that they *sometimes* do so. The above shows no more—in fact does not show at all—the first part of the process. My impression (not a very strong one) has been that swarms *usually* keep moving from place to place until they finally blunder into a place that will answer. Some would consider that the most improbable of the three leading theories. Some hollows are ancient, and have at a previous date been occupied by bees. I suggest that masses of propolis are likely to persist in such hollows even after the moth has cleaned out the comb. Going to such a place for propolis may have familiarized now and then a swarm with the hollow it went to. A hollow, of which the upper end will do for a home, sometimes in spring has water at the bottom. Bees *are said* to frequent such hollows for water. Like some folks they prefer their water "with a little suthin in it." Shortly before swarming, carrying water is a heavy and constant job employing a great many bees. Anon their favorite supply dries up. Then it would be very natural for them to prospect all the hollows in the attempt to find more, and so get a wide familiarity with hollow trees which would soon come in good play for another purpose.

Taking away queens to make after-swarms go home is practiced to some extent. It is not very satisfactory. You do not know whether there is one queen or more. The supply of young queens at home holds out too long. The hunting often takes too much time when time is precious. And unless you put them back yourself (which you can't do in the frequent cases where you don't know where they came from) they wait too long before they go, and are liable to be alighted on by the next swarm that comes out. In a quite small apiary, however, these objections would be much mitigated,

BEESWAX SPLINTS FOR FOUNDATION.

If I understand C. Davenport, page 461, it's a new kind of splints made out of *beeswax*, and made right on the spot where wanted. Seems to promise being just as good as wooden splints, and easier to put on.

TILE AND STONE BOTTOM-BOARDS.

Tile bottom-boards costing only 10 cents, and that in Cuba! Perhaps a great invention. But will they *fit* tightly? Termites may *drive* me to something of the kind; and I have even been thinking of sawed stone flagging. W. W. Somerford, page 461.

RUSTLER BEES AND AVERAGE BEES.

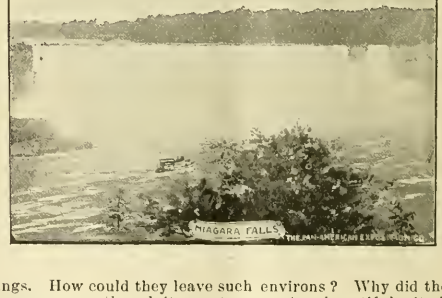
Anent the two pen pictures of the rustler bees and the average bees, on page 462, I hardly know whether to applaud or scold. Guess I'll scold. It seems to me that where colonies are not queenless, not excessively weak, and nothing special the matter with them, the working of the bees does not differ very greatly—or if it does the keeper needs a thrashing. Mr. Schaefile, hadn't the heads of those average queens ought to come off—hadn't the heads of their grandmothers ought to have come off long ago?

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

WASTE-PAPER BOXES.

Our good friend, that prince of California bee-keepers, J. F. McIntyre, has left his canyon home, which has harbored him and his for near a score of years, and has gone to the city, which in the future is to be honored by having him as a citizen. What could lure him from the restful quiet of that grand canyon, where he has always had Nature at her best, and at first hand? Then, too, his bees, which he loved so well, and has cared for so fondly and so wisely, must be left behind. He and the rippling Sespe must part company. This, at times, was a rapid, roaring, resistless torrent, which then swept grandly by his very door. This grand and no less beautiful environment must have become very dear to all the McIntyres—must have crept in with its refining, elevating influence to make more rugged the honesty, more prompt the sympathy, more pure and high the aspirations towards better



things. How could they leave such environs? Why did they hie away, even though it was to move to a beautiful city by the sea? It was not to change grandeur for grandeur, the close mountains for the equally close ocean, whose surf is ever beating the shore, and whose breakers are ever chasing each other landward, as if tired of their own restless plunging. It was a good purpose—that the dear children might have better school privileges.

Oh! but this love of children is a most blessed thing; though it call for heaviest sacrifice, its call is not in vain, but gladly heard and heeded. Mr. McIntyre, as in all his relations, shows here his good sense and wisdom. Education—the best—is the most precious treasure he can bestow on those lovely girls. To sacrifice, that such treasures may be granted, is the greatest gain. Those fortunate daughters will ever remember it gratefully—the justly proud parents will ever rejoice that they could do this good thing.

Well, I, too, have tasted our friend's kindness. He drove me during the cool evening eastward to meet several of the ranchers in the rich, beautiful "Mound District." And the next morning he accompanied me to look in upon the incomparable begonias of Mrs. Theodosia Shepherd, who by her wonderful skill in breeding plants and developing new varieties, has gained a world-wide reputation. How much pleas-

A PAN-AMERICAN EXPOSITION BUILDING.

ure and health the work has given her, and through it what a wealth of riches has come to the others of us, who look so fondly on what she has so skillfully wrought.

As Mr. McIntyre and I were passing down the street, we saw on the corners neat zinc boxes with an ample slit in the top, *ala* a mail-box. On these is written: "Gift of the Native Daughters;" and all to foster neatness in the town. God be thanked for daughters. I know this thought is often in Mr. McIntyre's mind, and I believe voiced by his lips, as I saw those neat boxes. I said, "God be thanked for the native daughters of Ventura." What a happy suggestion was this. I even went out of my way to pick up a piece of paper that must have blown in from the outside, that I might do my part to keep tidy the streets, and show my appreciation of these fair daughters of fair Ventura. The half-filled boxes, and the neat paper-and rubbish-free streets show full well that the ladies' efforts are not unheeded. This means a whole lot more than clean, tidy streets, it means a toning up of the whole child population of Ventura. Need I limit it to the children? We children of larger growth need just such toning up. If all parents had time and inclination to instruct the children *never* to throw the paper-scrap, the banana peel, or other filth and rubbish, into yard or street, then our walks, paths, streets and yards would be a "a joy forever," and not the unkept reservoir for rubbish and rot that so often offend and disgust us in our strolls and rides.

As we parents are too often remiss in this, or else fail to impress our wishes, it is good that such as the Ventura Native Daughters should come to the rescue. May we not all take a hint from them, and go and do likewise? as also do all we may by word and more telling example to aid in this good work of a wholesome cleaning up? Surely, Ventura is happy and fortunate, in having this ever-present reminder—I should have said reminders, for these boxes are very plural—not to throw the litter on walk and street, and to pick up any that more thoughtless, careless hands have cast away to disfigure the landscape.

How many of us, as we see the disgusting scratch of many matches on beautiful walls, or see the scattered matches on floor or walk, rejoice that the fond, eager, loving mother in the long years past, busy though she was almost to the limit often of strength and endurance, yet was not too busy to train us in better and neater ways. The little child that is so taught that it will never mark a wall, never scratch a match where it will mar and disfigure, never cast the refuse paper or fruit-peel where it will offend good taste, has received a lesson that will make it more a lady or gentleman, as it comes to maturity, and more a patriot as it pushes out to fight life's battles. I feel sure that one taught care and thoughtfulness in these matters, will have such respect for law and order that it will take great temptation to move him to join mob or engage in riot. Surely, such teaching must be rife in the fair homes of Ventura. For only from neat homes could come the impetus that fixed these boxes on the many street-corners of beautiful "Ventura by the Sea."

I wish these words might move others to act for home and city, that we may become a neater people in our home, as also in our surburban life.

PROF. L. H. BAILEY.

And do some of you—not many, I am sure—ask, Who is Prof. L. H. Bailey? Well, he is an old friend and student of mine, who by hard, earnest work has become known the world over. He is perhaps the most noted and best known horticulturist in the world. He is prosessor in Cornell University and has written some of the best books on growing and caring for fruits that are to be found. He is also at the head of the great movement in New York State that has succeeded so gloriously in taking "Nature Study" to thousands of children in the rural and city schools. He has inspired the teachers to this same nature study, so that they can interest the children.

And not content with this, he has pushed on to the farmers and has inspired in them a desire to know more and much of nature. So that thousands of them are again in school, so to speak, and are happy in quest of truth as found in study of plant, insect, soil, and rock. This nature study, as carried on in New York, is full of promise. It is making life fuller, brighter and better in thousands and thousands of homes. Prof. Bailey even prepares the leaflets and booklets that are to be used as lesson helps in this grand quest of truth. More still, he either goes or sends some one to schools and homes, to give added help and inspiration in this great and beneficent work. May we not pray that the Lord of the harvest may send more Baileys, and may waken to more nature study every section and State in our beloved country?

I have had Prof. Bailey lecturing with us for two days in the University Extension work in agriculture. It was a great treat to hear him, and the great audiences just hung on his words. Prof. Bailey says his whole life has been turned, brightened and tremendously influenced by a lady teacher, who very early incited him to observe and study the trees. I visited his home while he was but a lad, and was delighted to find him authority on all the birds of his neighborhood. Later it was my delight to be for four years his teacher, and to watch with profoundest joy, his leaps and bounds into the realm of knowledge. Will not the nature-study work, inaugurated in New York by Prof. Bailey, discover to the world other Baileys who will walk in his footsteps, and thus multiply the glad fruit that is sure to come from all such well-directed effort? The home circles in the great Empire State who have tasted of this blessed nature study fruit, may well help to incite other places and States to "go and do likewise."

LAKE IN THE PAN-AMERICAN EXPOSITION GROUNDS.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

ADVERTISEMENT.

To Our Shippers:

We were obliged to notify you a few weeks ago that one Joseph M. McCaul had leased our old quarters at Nos. 120–122 West Broadway, New York City, and had there started up business under the name "HILDRETH, McCaul Co.," and had distributed a multitude of circulars so worded as to create the impression that his business was a successor to or a branch of the business of Hildreth & Segelken.

For the protection of our shippers and ourselves, we at once instructed our attorney to commence action to enjoin the said McCaul from using the name HILDRETH in any manner whatsoever in connection with his business. On the 10th day of July, 1901, Hon. David McAdam, Justice of the Supreme Court of the State of New York, after a full argument upon the merits, issued a peremptory injunction, of which the following is an extract:

"And it appearing that the plaintiffs have for a long time been and now are carrying on business under the style of 'Hildreth & Segelken,' and that the defendant has recently opened a business at 120–122 West Broadway, in the Borough of Manhattan, City of New York, and is carrying on the same under the style of 'Hildreth, McCaul Co.,' and that such act is in violation of the plaintiffs' rights, and that the commission or continuance thereof, during the pendency of this action will produce irreparable injury to the plaintiffs; it is

ORDERED that the defendant (Joseph M. McCaul) and each of his agents, servants and employees and all other persons acting under his authority and direction be, and he and they are hereby restrained and enjoined from showing, displaying or otherwise using during the pendency of this action in or upon any papers, devices, sign or signs, or otherwise, in the business conducted by the the defendant at No. 120-122 West Broadway, in the Borough of Manhattan, City of New York, or elsewhere the name of "Hildreth" separately or conjunctively with any other name, designation or description."

Outside of our desire in our own interests to protect the name which we have built by years of satisfactory dealings with our customers, we hastened to procure this injunction as soon as possible, to prevent our shippers from being misled into sending their goods to one who would make an attempt to gain their trade by such a trick and device.

With thanks for the many expressions of good-will we have received from our shippers concerning this attempt to trade under our name, we are, Sincerely yours,

HILDRETH & SEGELKEN,

265-267 Greenwich Street, NEW YORK, N. Y.

GENERAL ITEMS

A Good, Growing Season.

This has been a very good, growing season here. I feel sorry for such as Dr. Miller and others who have suffered from lack of rainfall. If the Doctor had sent his bees and pasture here last spring I think Nature could have furnished the liquid tonic to have kept them going. White clover was fairly good, and bees worked well on it; basswood the same. Buckwheat is to be heard from. There is a large acreage sown, and as the weather has been congenial for its growth, we may expect a good flow of honey.

M. P. LOWRY.

Armstrong Co., Pa., July 29.

The Outlook in Washington.

All the spring and to the first part of July it was very wet and cold here. All through the clover bloom the bees did nothing more than make a living, although they were very strong in bees, but now they are getting some honey from fireweed. I think some of my best colonies have about 50 pounds ready to extract, but I think the honey-flow will be cut short considerably by the forest fires now raging here. The last three days I have been out in the timber with several other men fighting fires, and I was surprised to see bees working on the flowers where the smoke was so thick that we could hardly stand it. But even if the bees do work in the smoke, I think it will cut down the yield some.

HANS CHRISTENSEN.

Skagit Co., Wash., Aug. 10.

Don't Make Wild Honey Reports.

I think it is utterly wrong for bee-keepers to make such enormous reports as, "A good year for honey," "Best honey-flow in years," "Heaviest crop ever known," etc. Any man with brains in their proper place can very plainly see that all such reports have a tendency to lower the price of honey, and while some may be quite true, I fear a great many report too early, having a large crop in view, with perhaps two or three dozen colonies of bees kept in a half-way manner, and thus they find themselves minus their honey crop, and buyers don't care to raise the price after it is once down. Hence it is folly to report.

Bee-keepers should put their minds on a level basis, and keep them there. We rarely see a bee-keeper who keeps bees for business making such a whoop, whoop, hurrah boys! It is the still waters that are deep, and where we catch our largest fish. I caught 22 nice ones, Aug. 16. P. W. STAHLMAN.

Albany Co., N. Y., Aug. 19.

Ancient Ideas of Honey.

I send a clipping which would doubtless amuse the readers of the American Bee Journal. We laugh at the assumed knowledge of this educated man of three and a quarter centuries ago; but many of the notions which we cherish and hug to our bosoms at this dawn of the 20th century will appear just as ridiculous to our descendants at its close.

Columbia Co., N. Y. JAMES MCNEILL.

The following is the clipping referred to by Mr. McNeill:

HONEY FOR SCHOLARS.

"Honey and bread was a great Meat with Pythagoras and his Scholars, and counted a sufficient food for a temperate life. For bread strengthens the body, and honey both nourishes much and also cleanseth away superfluities. Pollio Homulus being asked by Augustus the Emperor how he lived so long! By, nourishing (saith he) my inwards with

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.

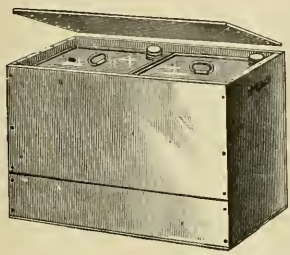
BEST

Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 8 cents per pound; four or more cans, 7½ cents per pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are boxed. This is all

ABSOLUTELY PURE HONEY

The finest of their kinds produced in this country.

Read Dr. Miller's Testimony on Alfalfa Honey:

I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more marked flavor, according to my taste. C. C. MILLER.

McHenry Co., Ill.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

QUEENS! QUEENS!

From honey-gathering stock. Tested, $1.00; untested, 75 cents. "SHADY NOOK APIARY."

JAMES WARREN SHERMAN,

29A13t SAG HARBOR, NEW YORK.

ALBINO QUEENS If you want the most prolific Queens—If you want the gentlest Bees—If you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.

11A26t J. D. GIVENS, LISBON, TEX.

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And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)....	$ .70	$1.20	$2.75	$5.00
Sweet Clover (yellow)....	.90	1.70	4.00	7.50
Alsike Clover	.90	1.70	3.75	7.00
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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Bees that Have a Record

(See page 459 American Bee Journal.)

Have longest tongues, handsome, gentle, great hustlers for honey, all tested queens, and sold at rate of $8 per dozen. By return mail.

HENRY ALLEY, Wenham, Mass.
31A8t Mention the American Bee Journal.

BEES WAX We will pay 26c. cash, per lb. for pure, bright yellow beeswax, and 20c. cash, per lb. for pure, dark beeswax delivered here. CHAMBERLAIN MEDICINE CO., Des Moines, Iowa.
27A13t Please mention the Bee Journal.

TENNESSEE QUEENS....

Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3½ miles apart, and mated to select drones, $1.50 each; Untested Warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and but few within 5 miles. 28 years' experience. Discount on large orders. Contracts with dealers a specialty.

JOHN M. DAVIS,
34A3t SPRING HILL, TENN.
Please mention Bee Journal when writing

COMPLETE POULTRY BOOK FREE.
Contains 208 pages, profusely illustrated, plans for houses, incubators, brooders, coops, etc. Given free if you send this advertisement and 25 cents for a year's subscription to our Journal. INLAND POULTRY JOURNAL, Indianapolis, Ind.
29Dtf Please mention the Bee Journal.

UNTESTED

Italian Queens Free

BY RETURN MAIL.

For sending us **One New Subscriber** for one year, to the American Bee Journal, with $1.00, we will send, **by return mail,** a fine Untested Italian Queen free. This offer is made **only to our present regular subscribers.**

We will mail one of the above queens alone for 75 cents; or 3 for $2.10.

Please do not conflict the above offer with the one on another page which refers to Red Clover Queens. For sending us **one** new subscriber at $1.00, and 25 cts., we will mail you free an Untested Red Clover Italian Queen.

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44 & 146 Erie St., - CHICAGO, ILL.

Honey, and my outward parts with Ayle. The like answer likewise made Democritus, being demanded the like question. Furthermore, it is so general a Meat through Russia, that the Children eat it on their bread every morning as ours do Butter to their breakfast; with whom, and with Old Men it agreeth exceeding well, cleansing their breasts, opening their pipes, warming their stomachs, resisting putrefaction, and engendering sweet and commendable blood; Raw honey is never good, therefore clarify it thoroughly at the fire; also let it be honey that ran and was never puffed out of the combs, and of young bees rather than old, feeding upon thyme, rosemary, flowers, and such sweet and wholesome herbs. Then may you boldly give it as meat to young children, to cold and moist complexions, and to rheumatick old men, especially in Northern Countries, and cold climates, and in the winter months.—From DR. THOMAS MUFFETT, 1575.

Poor Season for Bees.

It has been a poor season here this year. What little honey there is is of good quality and flavor. It is worth about 20 cents per pound. There is nothing but pollen for the bees to get now, but they seem to be making good use of it, and are rearing lots of young bees. WM. MARTIN.

Lafayette Co., Wis., Aug. 12.

Dreadfully Dry.

We have had dreadfully hot weather here. The thermometer registered 112 degrees in the shade. It completely dried everything up that the bees could get a drop of nectar from. The weather is much more favorable now. W. T. STEPHENSON.

Massac Co., Ill., Aug. 13.

Very Short Honey Crop.

In this section of country, with not half a crop of bees to start with last spring, I have taken 220 one-pound sections from six colonies, spring count, and increased to 15. The weather was very dry, and white clover and many other plants yielded almost nothing. I know of but one bee-man that has taken any honey, and he had 50 pounds from 13 colonies. The bee-men here don't take bee-papers—can't afford it, they say. They have just as good pasture and bees, although my bees work on red clover.

What I know about bees I learned from the American Bee Journal. I bought six colonies from one of those fellows that don't read bee-papers. I paid 90 cents per colony for pure Italian bees in 10-frame hives. They worked on red clover for 53 days. I get 15 cents per pound for honey, and have sold 182 pounds, and the rest will be gone in a few days. I sell it right at home. While my crop of honey is not big, I give the good "old reliable" American Bee Journal full credit for my success, and lots of pleasure besides. Without it I, too, would have said, "It don't pay to take bee-papers!" and keep bees.

Hurrah for the American Bee Journal!

Pike Co., Ohio, Aug. 12. J. M. WEST.

An Experience in Bee-Keeping.

Three years ago I sent to a Tennessee firm for four 2-frame nuclei, at $2.50 each, after being assured that the express charges would not exceed 45 cents apiece; but when they arrived there were $7.75 express charges on them, and one of them was queenless, and of course died. I never could hear from that firm again, although I wrote several times to them.

The other three nuclei built up strong, and filled the eight brood-frames. They wintered on the summer stands all right, and the next spring, about June 1, they commenced swarming, and they did everlastingly swarm. I was away from home, and my wife, who had had no experience with bees, had her hands full. She succeeded in hiving six swarms, and she says five or six got away. As a result of excessive swarming the original colonies were reduced so that they did not store much

QUEENS

QUIRIN—THE QUEEN-BREEDER—has now on hand, ready to mail, **500** young, long-tongued Red Clover Queens, Golden or Leather Colored.

We have one of Root's best breeders from his $200, long-tongued, Red Clover Queen, and a Golden Breeder which we are told is worth $100, if there is a queen in the U. S. worth that sum.

J. L. Gandy, of Humboldt, Nebr., tells us that the colony having one of our queens, stored over 400 pounds (mostly comb) honey in a single season. A. I. Root's folks say that our queens are extra fine, while the editor of the American Bee Journal tells us that he has good reports from our stock from time to time.

We have years of experience in mailing and rearing Queens. Queens positively by return mail from now on. Prices for balance of season as follows:

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Selected	$ .75	$ 4.00	$ 7.00
Tested	1.00	5.00	9.00
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Extra selected tested, the best that money can buy, 3.00

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By contract this ad. will appear twice per month only.

27D6t Please mention the Bee Journal.

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35 acres, well fruited to cherries, peaches, plums, pears, apples, currants, raspberries, blackberries, and strawberries. Good house, barn, vegetable green-house, honey-house, 50 or 100 colonies of bees, situated in good bee-locality. Title clear. For particulars address,
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A Good Wagon

begins with good wheels. Unless the wheels are good the wagon is a failure. IF YOU BUY THE **ELECTRIC STEEL WHEEL** made to fit any wagon—your wagon will always have good wheels. Can't dry out or rot. No loose tires. Any height, any width tire. Catalog free.

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QUEENS

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Bred under the SUPERSEDING CONDITION of the colony.
GOLDEN ITALIANS, the GREAT HONEY-GATHERERS. They have no SUPERIOR and few equal. 75c each; 6 for $4.00.
RED CLOVER QUEENS, the LONG-TONGUED ITALIANS, which left all RECORDS behind in GATHERING HONEY, $1 each; 6 for $5. SAFE ARRIVAL GUARANTEED.
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Headquarters for Bee-Supplies. | Root's Goods at Root's Prices.
Catalog free; send for same.

Low Rates to Buffalo Pan-American.

The Nickel Plate Road are selling tickets at exceptionally low rates to Buffalo and return, good for 10, 15 and 30 days. For particulars and Pan-American folder of buildings and grounds, write John Y. Calahan, General Agent, 111 Adams St., Chicago. 'Phone Central 2057. City Ticket Office, 111 Adams St 19—3t

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honey. We got about 50 pounds of comb honey from the new swarms, but none from the old colonies. Two of the old ones became queenless, and died during the summer. The seven remaining colonies wintered all right on the summer stands, but last season they did nothing. I got no increase and no honey, and they were so light in the fall that I did not expect any of them to survive the winter. I think that fully 50 percent of the bees in this vicinity died during the winter. But by feeding mine pretty liberally during the warmer days of winter and early spring, they all came through in pretty good condition, and, notwithstanding the excessive wind, heat, and drouth, my bees have done much better than could have been expected considering the very unfavorable season. They have increased just 100 percent, and most of them are beginning to work in the supers.

One of the old colonies, I think, is queenless, at least I failed to find any queen, although I may have overlooked her. They have considerable honey and unhatched brood, but no newly laid eggs. I found quite a number of old, torn-down queen-cells, but no new ones. H. A. CHENEY.

Barton Co., Kans., July 25.

Drouth and Heat in Iowa.

The drouth and heat have been hard on bees, and I had trouble holding swarms after being hived. I got three swarms from one colony in five days, and they are doing well for the chance they have. The forepart of the season was good, the bees having basswood and white clover to work on. I am in a good location, on the Des Moines river.

W. IRVINE, SR.

Webster Co., Iowa, Aug. 12.

Should Bee-Keepers Encourage Circulation of Bee-Journals?

The Australian Bee-Keepers' Review uses the following good logic:

Some think that the increase of the circulation of the bee-journals is a damage to the business by increasing the number of bee-keepers. I wonder if these good people stopped to think that a man doesn't subscribe for a bee-journal until after he commences keeping bees. It's the ignorant bee-keeper who does most harm to the business, and every new subscriber means the exchange of an ignorant man for one better informed.

The Two Kinds of Queen-Cells.

These cells are called by the Germans *preconstructed* and *postconstructed*, and were thus designated by Samuel Wagner, the able editor of the American Bee Journal, in the first volume. The two kinds are thus described in Gleanings in Bee-Culture in a Stray Straw:

When bees rear a young queen for swarming or superseding, a cell is built whose bottom is quite different from the bottom of a worker or drone-cell, being smoothly concave like the inside bottom of a teacup. The cell is much larger than a worker or drone-cell, its diameter being about 5 16 of an inch. Because it is built of this large size *before* it is occupied, it is called a *pre*constructed queen-cell. After a preconstructed cell is built out to a certain extent it is called a cell-cup, and many cell-cups are started that are never occupied. If a colony becomes queenless when no occupied queen-cells are present, the bees proceed to rear one or several queens from larvæ in worker-cells. The first change noticed in one of these worker-cells is that the outer part of the cell is enlarged, the walls having the appearance of being pushed apart so as to increase the diameter. Then a

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Long-Tongued 3-Banded Italians

bred from stock whose tongues measured 25-100 inch. These are the red clover hustlers of America.

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That covers the whole Apicultural Field more completely than any other published, send $1.25 to

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Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.

WALTER S. POUDER, 512 MASS. AVE. INDIANAPOLIS, IND.

A Superior Red Clover Queen

(AN UNTESTED ITALIAN)

For sending us One New Subscriber and 25 cents ($1.25 in all.)

We arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us this season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he uses is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

All queens guaranteed to arrive in good condition, and all will be clipped, unless otherwise ordered.

We would like each of our present readers to have one or more of these fine Queens. Simply send us the name and address of a new subscriber for the American Bee Journal for one year, and 25 cents extra, and the Queen will be mailed to you. Our queen-rearer is now caught up with orders, and expects to be able to mail them hereafter within 48 hours after we receive the order. He is in another State, and we will send him the Queen orders as fast as we get them at this office. He is prepared to rear and mail a large number.

The cash prices of these Queens are $1.00 each; 3 for $2.70; or 6 for $5.00.

Send all orders to

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144 & 146 Erie Street, CHICAGO, ILL.

hood is built over the cell, and this is built downward to make the full size desired. In the meantime the larva has been lavishly fed so that it is floated out of the narrower part of the cell. Because such a queen-cell is built from a cell *after* it has been started as a worker-cell and is occupied by a larva, it is called a *post*constructed cell.

You may not always be able to tell from outside appearance whether a cell is preconstructed or postconstructed, but you can always tell by tearing it down and seeing whether it has a smoothly concave base, or an angular and smaller base like a worker-cell. A preconstructed cell has an egg deposited in it, never a larva at the start. A postconstructed cell is built over a worker-cell containing a larva, although in very rare cases it may contain an egg.

Editor Root thinks it would be better to call them *swarming-cells* and *emergency-cells*. The name *emergency-cells* is entirely appropriate, as applied to cells that are built to meet an emergency, and there is just as much appropriateness in the term *swarming-cells* when such cells are built for swarming. But to use it for cells that are meant for superseding, when there is not the slightest intention of swarming, seems exceedingly inappropriate.

Bees and Alfalfa.

The introduction of alfalfa into Kansas has made the State richer by one million dollars. But the discovery that the honey-bee can feed on alfalfa blossoms has added another million. Bees and alfalfa are an ideal combination. Experiments have been made by raisers of honey-bees and they report most favorably upon the blossom of the alfalfa.

Alfalfa contains a certain degree of sweetness not found in either the sweet clover or white clover. Every stock-breeder knows that in-and-in breeding will cause a deterioration in the strain of stock. Infusions of new life are required to give a new life and vigor to the breed. As it is with animals so it is with plants. Cross-fertilization must take place to keep up the standard. It was once supposed that within each flower are the necessary means for assuring the formation of the embryo within the seed. The truth is that many plants, instead of endeavoring to facilitate self-fertilization, are so constructed as to prevent it. Alfalfa is of this class. The pollen or fertilizing agent must be carried from one blossom and placed where it is needed in another to insure a full crop of seed, and some foreign agency is depended on to accomplish the purpose. In the case of alfalfa, currents of air are unable to carry the pollen and accomplish the cross-fertilization, and most insects do not carry it. Here is where the bee is useful. The alfalfa blossoms offer the bee a sweet drop, and in return for the favor the bee leaves a few grains of pollen, unconsciously brought from another blossom. So the exchange goes on, to the mutual profit of the owner of the alfalfa and the keeper of the bee.—Saturday Evening Post.

Cane vs. Beet Sugar.

The authorities tell us that there is no difference between sugar made from beets and that made from sugar-cane. That seems to be the accepted view among the bee-journals of this country. But the British Bee Journal has persistently urged that beet-sugar should not be fed to bees. Although chemical analysis shows no difference, it insists that there is a difference that has its effect on the welfare of the bees to which it is fed. Chemical analysis shows no difference between diamonds and charcoal, but a pound of diamonds would buy a good many pounds of charcoal.

The refined article, in the form of granulated sugar, is the kind universally recommended as best for bees. W. K. Morrison thinks an article less refined would be better. He says in Gleanings in Bee-Culture:

The best *white* sugar sold is very highly refined, be it cane-sugar or beet. The beemen of Europe carefully avoid it because, in the process of refining, it has been robbed of some of its finest constituents.

Here is an analysis of a good quality of highly refined cane-sugar:

	Percent.
Cane-sugar	98.00
Glucose	.50
Water	1.00
Ash	.30
Organic matter	.20

Now notice the difference in a sample of muscovado sugar which has not been refined to the same extent:

Cane-sugar	84.00
Glucose	6.00
Water	5.50
Ash	1.50
Organic matter	3.00

Note the difference. The large amount of glucose makes it more agreeable to the bees, and the three percent of organic matter contains flavoring extracts or ethers that give to muscovado sugar its honey-like flavor, so much appreciated by the bees. The first sugar is the best from a chemist's point of view, but from the point of view of a good Italian bee the muscovado is healthier, and nicer to the taste.

I believe that, in this matter, we have been too hasty in following the crowd. American and English housewives buy sugar from its look; but the careful bee-man ought to consider that bees do not judge by looks: and in buying a sugar with a high percentage of natural glucose he is pleasing the bees and conforming to their wants. For my part I believe the larger the percentage of glucose in sugar the better it is for the bees; and, seeing that it is cheaper than white sugar, why should we not use it?

Barbadoes makes large quantities of this kind of sugar, which is exported to New York to be refined into white sugar. It is the old-fashioned sugar, but nevertheless a good one for some uses. Jaggery, or palm sugar, would be better still; but it is not easy to get, being mostly produced in India. But any sugar having a high percentage of glucose ought to have the preference, as it is more readily assimilated by bees, being nearer their natural food, and therefore less likely to cause derangement to their intestines, ending in bee-diarrhea and perhaps other troubles. There is no trouble in getting all the muscovado sugar that is required, hence the way is plain.

Confining Laying Queens Bad Practice.

That is the opinion of F. Greiner, as expressed with some emphasis in Gleanings in Bee-Culture. He thinks the injury to queens sent by mail is not so much due to the rough handling as to the confinement, and says:

The confinement in the mailing-cages during transit can not well be avoided, as bad as it is; but if to this we add days or possibly weeks of unnecessary confinement in nursery-cages, then good-by queen-business. I for

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Retail—Wholesale—Jobbing.

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13A26t Please mention the Bee Journal.

Langstroth on... The Honey-Bee

Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

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GEORGE W. YORK & CO.,

144 & 146 Erie Street, CHICAGO, ILL.

one would quickly drop any queen-breeder who stores queens in this wholesale fashion. The only proper place to keep laying-queens is in small colonies; or, if they can be thus safely kept, in separate compartments inside of a hive where they may follow their natural inclination by depositing eggs.

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Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

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Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condensed treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. 30 cts.

Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. Price, 10 cts.

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Capons and Caponizing, by Dr. Sawyer, Fanny Field, and others.—Illustrated. All about caponizing fowls, and thus how to make the most money in poultry-raising. 64 pages. Price, 20c.

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Poultry for Market and Poultry for Profit, by Fanny Field.—Tells everything about Poultry Business. 64 pages. Price, 20 cents.

Wanted.

Comb and Extracted Honey. Will buy your honey no matter what quantity. Mail sample of extracted, state quality of comb honey and price expected delivered in Cincinnati. I pay promptly on receipt of goods. Refer you to Brighton German Bank, this city.

C. H. W. WEBER,

2146-2148 Central Ave., CINCINNATI, OHIO.

29Atf Please mention the Bee Journal.

Wanted To Buy Honey

What have you to offer and at what price?

34Atf ED WILKINSON, Wilton, Wis.

Please mention Bee Journal when writing.

Wanted Fancy White Comb Honey in no-drip cases; also Extracted Honey. State price, delivered. We pay spot cash. FRED W. MUTH & CO., Front & Walnut Sts., Cincinnati, Ohio. Reference—German National Bank, Cincinnati.

28A17t Please mention the Bee Journal.

Wanted A party to manufacture PATENT COMB FOUNDATION on a royalty. Also, 105 colonies of bees to sell at $1.50 each.

H. VOGELER, New Castle, Calif.

35A1t Mention the American Bee Journal.

WRITE US

If you have large or small lots of HONEY to sell.

State quantity, how put up, kind of honey, price expected, and, if possible, mail sample. We pay spot cash.

REFERENCE—Wisconsin National Bank.

E. R. Pahl & Co.

34Atf MILWAUKEE, WIS.

Please mention Bee Journal when writing

Wanted Comb and Extracted Honey!

State price, kind and quantity.

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33Atf Please mention the Bee Journal.

Wanted—Honey.

Car Lots or otherwise; will pay highest market price, spot cash. Address, stating quantity, quality, and price desired at your station. Will send man to receive when lot is large enough to justify. THOS. C. STANLEY & SON,

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BY M. D. CAPPS.

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Price, in handsome paper cover, 25 cents, postpaid; or with the American Bee Journal one year—both for only $1.10.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Aug. 22.—White comb brings 15c per pound for the choice grades, with other lines not grading No. 1 selling at 13@14c; light amber, 12@13c; dark, 10@11c. Extracted, fair demand at 5½@6c for white, and 5¼@5½c for amber; dark grades, 5c. Beeswax steady at 30c for choice yellow. R. A. BURNETT & CO.

CINCINNATI, Aug. 10.—The honey market is rather dull on account of the warm weather. Extracted sells only to manufacturers from 5@6c; better grades alfalfa water-white from 6@7c; white clover from 8@9c. Fancy white comb honey sells from 13½@15½c.

C. H. W. WEBER.

BOSTON, Aug. 19.—Our market to-day is about 16@17c for fancy; A No. 1, 15½@16c; No. 1, 14@15c. Extracted, full supply, light demand.

Several lots of new Vermont honey in cartons have thus far been received, meeting a ready sale at 17c, although of course in a small way. The trade generally seems disposed to hold off, looking for larger receipts and lower prices. This is somewhat due, of course, to the fact that the demand is still light owing to the warm weather. Cooler weather will make a better demand and naturally make a better feeling.

BLAKE, SCOTT & LEE.

ALBANY, N. Y., Aug. 20.—We quote: Fancy white comb, 16@17c; No. 1, 15@16c; No. 2, 13@14c; mixed, 12@13c. Extracted, light, 7@7½c; mixed, 6½@7c. H. R. WRIGHT.

OMAHA, Aug. 8.—New comb honey is arriving by express in small quantities from Iowa and Colorado, and selling at $3 50 per case in a retail way. California extracted honey is being offered carlots at 4½@4¾c per pound, f.o.b. California shipping-points, but we have not heard of any sales having been made thus far. The production of extracted honey seems to be quite large this year in Colorado, Utah and California. PEYCKE BROS.

NEW YORK, Aug. 7.—There is some demand for new crop of comb honey, and receipts are quite numerous for this time of the year. They have been principally from the South, but we are now beginning to receive shipments from New York State and near-by. We quote: Fancy white, 15c; No. 1 white, 13@14c; amber, 11@12c. No new buckwheat is on the market as yet, and we do not expect any before next month.

Extracted is decidedly dull. Plenty offerings, with only a limited demand, and quotations are rather nominal. We are selling at from 5@6½c, according to quality, and Southern in barrels at from 55@65c per gallon. Beeswax dull and declining; for the present we quote 27@28c.

HILDRETH & SEGELKEN.

DES MOINES, Aug. 7.—There is very little doing here in new crop of honey. Some small lots of near-by produced comb honey are on the market and selling in a retail way at $3.50 to $3.75 per case. We do not look for much trade in this line before Sept. 1. Our market does not consume a great deal of extracted honey.

PEYCKE BROS. & CHANEY.

DETROIT, Aug. 12.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.

M. H. HUNT & SON.

BUFFALO, Aug. 10.—Quite a good demand for fancy honey, 16@17c, and lower grades, 12@14c; old neglected. Advise moderate shipments only of new as yet. BATTERSON & CO.

SAN FRANCISCO, Aug. 14.—White comb, 11@12½ cents; amber, 8@10c; dark, 6@7½c. Extracted, white, 5½@—; light amber, 4½@5c; amber, 4@4½c. Beeswax, 26@28c.

Market continues quiet, with apiarists, as a rule, unwilling to unload at prices generally named by wholesale operators. Quotations represent as nearly as possible the values ruling at this date for round lots, although free sales could not probably be effected at full figures, while, on the other hand, higher prices than quoted are being realized in the filling of some small orders.

KANSAS CITY, Aug. 6.—Some very fine Missouri honey is now on the market, selling at 16@17c per pound for fancy white comb. Colorado and Utah shippers are offering new comb honey in carlots for first half of August shipment at 10c per pound for No. 1, and 9@9½c for No. 2, f.o.b. shipping-point. The market for extracted honey is as yet rather unsettled, asking prices ranging from 4¾@4¾c, f.o.b. shipping-point. Buyers, however, seem to be in no hurry to make contracts. PEYCKE BROS.

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—BY—
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Please mention Bee Journal when writing.

ANOTHER ENDORSEMENT

—FOR—

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ALEXANDRIA, IND., Aug. 1, 1901.

THE A. I. ROOT CO., Medina, Ohio.

Dear Friends:—The tested clover queen came in good condition and has filled seven frames with brood two weeks from the day she arrived, which is better than the combined efforts of three "yellow" queens purchased two years ago. I believe she is going to be the counterpart of the queen purchased of you in 1896, in which case money could not buy her.

Yours Fraternally,
EVAN E. EDWARDS.

PRICES OF RED CLOVER QUEENS:

Gleanings in Bee-Culture one year and Untested Queen $2.00
" " " " Tested Queen 4.00
" " " " Select Tested Queen. 6.00

If you want something good you can not do better than to order one of these queens. All orders are filled promptly. No extra postage on these to foreign countries.

THE A. I. ROOT CO., Medina, Ohio.
(U. S. A.)

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor

CHICAGO, ILL., SEPTEMBER 5, 1901.

FORTY-FIRST YEAR
No. 36.

WEEKLY

APIARY OF H. S. FERRY, NEW YORK.
(See next page.)

THE AMERICAN BEE JOURNAL

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EDITORIAL STAFF.

GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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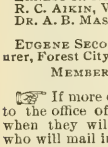
☞ If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Secor, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

TWO MORE ON THE 1000.—We have two more names to report before the Buffalo convention, which meets next week. We hope the membership will reach the 1000 mark very soon. We have tried to do something toward raising the number to that figure during the past two months. We will not feel that it is our fault if the desired number is not secured within the time mentioned. We still believe that every bee-keeper ought to be a member of the National Association, which has done such excellent work for the benefit of bee-keeping.

The two names to be reported are these:

CHAS. E. KEMP. A. J. STRATTON.

BUFFALO CONVENTION LODGING.—Secretary Mason writes us that he can secure for such, who desire, "a good, nice, clean place to sleep and get your breakfast at Buffalo for 75 cents." He says he can get such places for about 60, if they will apply to him at the convention. If more places are needed, The Dr. Pierce's Free Bureau of Information, at 652 Main Street, will furnish them in such style and at such prices as will be satisfactory, provided they will call for Sydney S. Sleeper, for arrangements have been made to accommodate all on reasonable and satisfactory terms, provided the applicant is not unreasonable in his demands; and the information furnished will be free to all convention members.

THE APIARY OF MR. H. S. FERRY, of Westchester Co., N. Y., appears on our first page this week. At least a portion of one is shown, which gives a pretty good idea of how Mr. Ferry has his neat bee-yards arranged. The surroundings can not be appreciated unless the yard including his home were given. His house is one of the finest in the city where he lives, and to protect his property he bought 100x100 feet running from the rear of his house lot to another avenue, and this he has for lawns and apiary. The small, long building seen in the rear is a bee-house with doors in front and rear, which opens as a shade in summer. This is for queen-rearing, etc., as well as honey.

The photograph was taken by Miss Mary E. Bickmore, who is a teacher in the High School in New York City. Bee-culture comes in her line. Mr. Ferry has an observation hive, which is used in schools before the classes.

DANIEL WURTH'S long-tongue five-banded queens—you can hardly afford to let this season pass without trying a few of them. See his advertisement on another page of this number.

DR. A. B. MASON, secretary of the National Bee-Keepers' Association, has declined to act as judge of the apiarian exhibit at the Ohio State Fair, on account of the Fair being opened on Sunday. That is the kind of a stand to take. Some Fair managers need to be taught a lesson, and the Doctor has had the courage of his convictions, and let the Ohio Fair managers know that he doesn't countenance Sunday desecration. He will have no part or lot with them. Fairs or expositions that can't succeed without opening on Sunday better "die a-borning."

THE NICKLE PLATE railroad is the one over which Dr. C. C. Miller and the editor of the American Bee Journal will go. The latter expects to leave on Friday evening, Sept. 6, and spend the following Sunday with his mother, about 50 miles south of Cleveland. Dr. Miller will likely leave Chicago Monday, Sept. 9. Mrs. Miller and Mrs. York expect to accompany their respective "partners"—to keep them straight.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., SEPTEMBER 5, 1901. No. 36.

Editorial.

The Buffalo Convention—next week, beginning Tuesday evening, Sept. 10.

Place—Lecture Room of the Buffalo Library Building, corner of Washington and Clinton Streets.

Question—Will *you* be there?

Rearing Queens for One's Own Use is the subject of an article in the American Bee-Keeper. The first thing is to select two best queens, one to rear queens from, the other for drones. He greatly prefers the Alley plan for starting cells, not only because it requires less labor, but because there is more danger of getting inferior queens by the Doolittle plan. He gives no reasons in support of this latter view, and it would be nothing strange if he should be asked for something more than a mere assertion.

As to the simplicity of the Alley plan, however, there can hardly be question. One who would make a bungling job of forming cell-cups and transferring larvæ might easily succeed by the Alley plan, which in brief is as follows:

Take a piece of comb containing eggs; shave away half the depth of the cells on one side; cut it into strips of one row of cells each; twirl the head of a match in every alternate cell so as to destroy the egg on the shaved side; then dip into melted wax the other side, and fasten it upon the lower edge of a half-depth comb, the edge of the comb being cut rounding so the cells will not be built too close together; and it is ready to be given to the queenless bees.

Honey and Beeswax Market.—The following is offered by Mr. Stoughton Cooley, one who has read this paper for some years:

EDITOR AMERICAN BEE JOURNAL:—

Permit me to offer a criticism of one feature of your very good paper. The general excellence of the paper is such that I would not offer this but for the fact that the fault can be easily corrected.

In the column headed "Honey and Beeswax—Market Quotations," you publish quotations of various dates. In the issue of Aug. 8 appear quotations from Chicago, July 18; Cincinnati, May 17; Boston, June 29; Omaha, May 1; New York, July 8; and so on, winding up with San Francisco, June 19. The criticism I offer is that these quotations should be kept nearer current quotations, and should be from a different source if possible. For instance, the Chicago market has a regular trade bulletin quoting the prices of honey and wax as sold on South Water Street from day to day. A glance at this paper would enable you to quote prices from a disinterested source, and, if you so wished, on the very day you go to press. The other large cities issue similar trade bulletins, and if they would not exchange with you, a single copy a week would surely not cost much.

I merely offer this as a suggestion for making this column of the American Bee Journal one of great use to bee-keepers, and should like to hear expressions of opinion from other friends of the paper. STOUGHTON COOLEY.

We wish to thank Mr. Cooley for his suggestion. For some time we have been in the habit of sending out return postal cards every two weeks to those quoting the markets for this paper, and if the report was not changed it was evidence that there had been no change in the market prices for that particular city.

The hint that interested dealers might not furnish as reliable quotations as others, doesn't appeal to our idea of the matter. As practically all who quote in our market column are commission men, it would seem that it would be to their interest to quote as high prices as can be secured, for the more they get for the honey the more will their commission amount to.

Again, those who make a specialty of selling honey ought to be able to secure higher prices than other firms, as they naturally must have a line of customers developed who depend upon them for their honey supply.

The trade bulletin suggestion may be well to investigate. We will do so, and see what the Chicago bulletin has to say about the honey and beeswax market. If as good, or better, service can be secured for bee-keepers in that way, we must have it, as nothing is too good for our subscribers.

We hope our readers will feel free to offer any further suggestions or criticisms they may think valuable. When presented in as courteous a manner as Mr. Cooley has done, they will be welcomed, and acted upon favorably if deemed advisable.

Robbers and Thieves among bees are perhaps generally considered as one and the same thing. W. W. McNeal, in the American Bee-Keeper, calls attention to the fact that they differ greatly, and it is probably true that few bee-keepers suspect the existence of thieves among bees. A robber is one which enters a hive and takes honey by force; a thief takes it by stealth. Robbers prey upon the weaker and queenless colonies, being more especially troublesome in a time of scarcity; thieves find their best foraging ground in the hives of strong colonies at a time when honey is coming in in a flood. There seems to be no way to circumvent this quiet stealing. The practical point in the matter is the danger of giving credit to a colony for extra-storing ability when that storing comes from thieving; and then breeding from such stock. Some times a colony is found storing when other colonies must be fed; and Editor Hill suggests that it would be a good thing to compare the honey stored by such a colony with the feed given to the others, to see if it might not be the same.

Keeping Over Extra Queens from one season to another, Editor Root thinks, can only be successful by keeping the queens in nuclei in a good cellar.

Pasteboard on Queen-Cages has been in use for some time, the object of the pasteboard being to delay the bees getting at the candy to release the queen. But it has been found that sometimes the bees fail to gnaw the card, and so the queen is not released. The A. I. Root Co., who originated the pasteboard plan, now instruct to tear off the pasteboard in 24 hours, if not already removed by the bees.

Fumigating Section Honey is insisted upon as absolutely essential by some, while others say it is not at all necessary. One thing upon which there can be no disagreement is that it will not do to put upon the market section honey with worms in it. It is possible that the difference in bees has something to do with the difference in experience. A good strain of Italians or hybrids may keep the combs so clean of worms that fumigation may not be necessary. Close watch should be kept by the novice to see whether there be any evidence of worms in the way of a white powder on the edge of the unsealed cells, especially on the bottom part of the section close to the wood. When anything of this kind is to be seen, fumigation should be resorted to at once.

The common plan is to use sulphur, which easily destroys the young larvæ, but is less effective against those of larger growth, while it makes no impression at all upon eggs. This makes it necessary to fumigate a second time. Some are enthusiastic as to the use of bi-sulphide of carbon in preference to sulphur, claiming that it kills eggs as well as larvæ. So the sections can be fumigated as soon as taken from the bees, or as soon thereafter as may be convenient or desirable, and no further attention will be needed. Another advantage claimed for the bi-sulphide of carbon is that it does not discolor the sections, while too much sulphur will give a coating of green. But care must be taken to avoid having a light come near the bi-sulphide, as it is very explosive.

Contributed Articles.

Hints on Hired Help in the Apiary.

BY HOMER H. HYDE.

TO the bee-keeper who has an extensive system of out-apiaries, or is extensively engaged in queen-rearing, the question of hired help is a very important one. I believe I have had as large experience with hired help as the next man.

It is a very difficult matter to get just the right man, for a great many reasons. The right man is one that is not afraid of stings—one that even when the bees do sting him does not care; one that is thoroughly immune from the poison of the bee-sting. The right man must be industrious, not afraid of work, one that will do as much, according to his ability, when you are away as he will when you are around. He must not object to any kind of work that you may put him to. He should not always be looking to see what time it is, but, on the other hand, should work steadily on until the proper time, and then quit. The best man does not use tobacco in any shape, as it is very injurious, especially to the nerves. The right man will not use intoxicating drinks even in the lightest form. The right man is one that is thoroughly moral, and strictly a gentleman. The best man is an ingenious fellow, one that is quick to learn and will "catch on;" one that when told what and how to do a thing does it just as his employer directs him do it.

The man who reads will be the most useful. Let me quote the following from W. L. Coggshall:

"The man who reads is the man who succeeds. The young man who does not read never amounts to much in my employ."

I can heartily endorse Mr. Coggshall's views.

The right man is careful, painstaking, one that is ever ready to further his employer's interests.

A man that has all the qualities above enumerated will be a success, and his services will command the highest price.

I once had a man that you could show nothing, and *his* plan was always the best. He would "mouth around," and half do his work, unless his plan was adopted. He was also a man that when we went out to work considered himself the boss, simply because he was older than I was. He did not seem to realize that while I was much younger in years I was much his superior when it came to bees.

Another man once in our employ was very careless, although industrious; he would scatter things about and lose them. We had to furnish him a new veil about every week, to say nothing of the other tools lost. He also seemed to think that when put on a piece of work it was your business to pitch in and help, no matter what your other duties were.

The owner or manager always has numerous little duties to perform, and numerous little ends to keep up, to say nothing of the management, and it is often necessary to put your men at something while you are attending to these things.

The right man will not want too many days off, and will want to work all his time.

On the side of the employer—he should treat his help fairly and honorably; he should be social and pleasant to all his men; he should treat them right, and so well that he gains their entire confidence, esteem, and respect. Where a man is so treated he will be much more useful, agreeable, and ready to further his employer's interests.

There is very much more that could be said on the subject, which I will leave for some future time.

Williamson Co., Tex.

The Premiums offered this week are well worth working for. Look at them.

The Art of Bottling and Selling Honey.

BY J. C. WALLENMEYER.

HAVING had an experience of eight years in bottling a dozen different kinds of honey in a dozen different kinds of packages or containers, I thought I would give the benefit of my somewhat varied experience to the readers, that they might possibly profit by avoiding the usual mistakes of beginners in using unsalable packages.

I have bottled honey from alfalfa, basswood, willow-herb, white clover, California sage, Florida mangrove, saw and cabbage palmetto, wild aster, and smartweed (or heartsease) mixed; dry-weather honey-vine, and fall flowers. For containers I have used pint and quart Masons, costing 50 and 60 cents per dozen; 6 and 8 oz., and 1 and 2 pound square flint-glass jars, costing $5.70 and $7.50 per gross (corks included); 13 and 16 oz. jelly-glasses; ½-gallon fruit-tablet jars costing 5 cents each; lard-buckets; glass bowls, and Root's No. 25 round flint-glass one-pound jars—quite a variety to select from.

I found Root's No. 25 jar the best and quickest seller of all, because, after being emptied, it could be used as a self-sealer for jelly, preserves, jams, etc.; only flint-glass jars should be used, as they show the honey off to perfection. Amber honey will sell nearly as well in quart Masons on account of the universal use of the package; but it is hard to sell 3 pounds of honey to every-day consumers. Most people prefer a small, cheap package. Our market demands a honey of light or light amber color, heavy body, mild flavor, and fine bouquet or aroma. It does not pay to bottle a poor grade of honey. The people generally get accustomed to the kind of honey produced in their own locality. I found this out to my sorrow when I tried to sell three barrels of mangrove and palmetto honey from Florida, although I thought it fine indeed. This matter of selection is very important. If you happen to run short of honey, and must buy, procure an article as near like your own as possible. I have found that patrons grow suspicious when they get different honey. I find honey from white clover, dry-weather honey-vine, and fall flowers, to give the best satisfaction for bottling, in my locality.

FIG. 1.—J. C. WALLENMEYER AND HIS LIQUEFYING APPARATUS.

Briefly stated, there are three essentials for success in bottling honey :

1. Best quality of well-ripened honey.
2. Neat, attractive package, useful when empty.
3. Aggressive selling methods.

You might have the very finest honey, but if it is not put up attractively, it will not sell. You might have a poor article put up in a showy, gaudy, labeled package, but no one will buy a second time. Again, you may have a fine article of heavy body and fine flavor, put up in the right kind of package ; but if you leave it at home, what good will it do ? Be up-to-date ; be agressive ; talk honey everywhere you go. I built up an enormous trade in the fall of 1894 with a well-ripened crop of honey from dry-weather vine and fall flowers. I controlled at that time a large portion of the drug trade in Evansville, and probably half of the grocery trade. I bought 5 barrels of Root's No. 25 1-pound jars, and one gross each of the 5-oz. and 8-oz. square flint Muth jars, and 5 gross of 1-pound, and 3 gross of 2-pound Muth jars, all at one time. I had every kind of package to please the most fastidious. I sold both the 1-pound square and round jars at $2.00 per dozen, to retail at 20 cents. The 5 barrels of Root's No. 25 jars were gone in a jiffy, while I have nearly all the 5 and 8 oz. jars yet. These I use at fairs to give away as samples. I often sold a dozen of the round jars to housewives who wanted a set for jelly, etc., but never sold more than one or two of the square jars at one time to any lady. They are considered worthless when empty, although my wife likes them for small pickles and catsup. I use the No. 50 label, costing $1.75 per 1000, for both round and square 1-pound jars. This label is showy, and will not soil easily in fly-time. I find the 2-pound square jar an easy seller to parties who mix their own cough medicine every winter.

No. 2.—FILLING THE JARS, AND CAPPING.

I have now dwelt at length on the merits of various packages, as I think it a very important item to help sell our honey. I forgot to say my worst-selling package was the tin lard-bucket, Mr. R. C. Aikin notwithstanding. They might be all right to sell to old customers ; but the main objection is that people can not see the contents unless it is opened. To get new customers to buy your honey, invest 5 cents in a "glass show-case." As honey is not a staple, instruct the grocer to place conspicuously, and you will have the pleasure of selling both "show-case" and honey at the same time.

HOW TO LIQUEFY ; HOW TO WASH THE BOTTLES.

We will now proceed to the process of bottling. Have your honey liquefied, if candied, holding the same at 150 degrees for two or three hours. By using a gasoline stove you can regulate to a degree, almost. Be sure not to overheat it. It will stand 170 to 180 for a short time, but I prefer not to risk losing the aroma and injuring the delicate flavor. If you are compelled to buy honey, always buy in 60-pound tin cans, as they are more convenient to handle. While you are liquefying your honey, wash your bottles, using clear, soft water with sal-soda and shot to remove dirt and particles of glass if new. Then rinse in clear water, and place bottom upward in racks to drain. This will make flint jars clear and sparkling. I did use a ten-gallon filling-can, bought of Mr. Muth, but now prefer to use my extractor (with cross-arm and basket removed), raised to a convenient height. I prefer to bottle honey hot, as it runs quicker, retains its aroma, and will stay liquid longer than if bottled cold.

Have the rack containing empty jars at your left. Place the pan under the honey-gate to catch any drippings. You will soon learn how to cut off the flow just right the first time. Pass the jar to an assistant at the right, who presses the cork (cost 75 cents per gross) in the mouth, then dips the jar into melted wax and paraffine, half of each. A second assistant puts on the tinfoil (costs 75 cents per gross) in place ; winds a capping-strap around the jar with the right hand ; then holds the jar with the left hand, running the head up and down on the strap until the cap is nicely smoothed down. A pasteboard, about 12x20, covered with dextrine (costs ten cents per pound), is covered with labels in front of the operator. She lays the jar down flat, deftly catches the label by the corner, removes it from the board, attaches it to the center of the jar, smoothing it out with a soft cloth ; then she places the jar in the case at the right, holding a dozen each.

After a little practice, three persons can easily fill, cork, wax, tinfoil, label, and pack 800 pounds a day, and not spill a drop of honey, by this method. The corks used for honey-jars are seconds, and ought to be covered with wax to effect an air-tight sealing while the honey is hot.

HOW TO SELL THE BOTTLED GOODS.

Now, then, we are ready to sell. Tog up a bit ; for if you will notice you will see that all successful salesmen are well dressed and well groomed. Take a sample jar of each kind, and go to your grocer. If he is busy, see if he has any honey in sight. Don't attempt to sell to him while he is busy. If he is not, tell him you have a fine article of honey, fine flavor, and good body ; that the crop of honey is very short this year, and you will not have very much to sell. If you tell him you have five tons he will expect to get it for nothing. Hold your jar to the light ; turn it upside down to show how thick it is ; talk honey, talk business, and stick right to him. Have one price for everybody. It will pay you to allow a good margin of profit, and he will then try to make more sales than if he made a very small percent of profit. But be sure to have your honey placed where every one can see it on entering the store, as people hardly ever ask for honey unless they see it.

Remember, in conclusion, that he who tooteth not his own horn, the same shall not be tooted.

LIQUEFYING-APPARATUS—SEE FIG. 1.

In presenting a photo of my liquefying-apparatus I have tried to make it conform as nearly as possible to the requirements of the average bee-keeper. Although I usually liquefy on a gasoline range, the cut shows 500 pounds of candied honey liquefying, without interfering with the preparation of meals. Two 60-pound cans are placed in two common wash-boilers, then filled with water, and heated gradually. After all the honey in the can is liquefied it is drawn off into an extractor-can (with the baskets and crank removed), by means of a rubber hose, the can being covered to prevent foreign substances lodging therein. I had a Muth ten-gallon filling-can, but I like the extractor better, as it has a much larger honey-gate, which is very essential in rapid filling. If the honey is cold, the flow can not be cut off a third as fast ; therefore with honey at about 140 to 150 degrees Fahr., and a large honey-gate, we attain the maximum of rapidity in filling. Besides, I found, at least in my experience, that, in filling with cold honey, a large number of air-bubbles formed, thus preventing our getting the desired amount in the bottles. It would also run over the sides when heated to the right degree.

Of course, no one would attempt to seal until the

bubbles had risen to the surface, which they will do in a few minutes with hot honey. If the honey is then sealed, and either dipped or corks sunk, and any kind of good sealing-wax poured on, thus effecting a hermetical sealing, the honey contracts when it gets cold, thus causing the much-talked-of vacuum, especially if a tinfoil cap is properly applied, making it absolutely air-tight.

I found, only the other day [February], 2-pound Muth jars which had been waxed, that candied, while others on the same shelf, sold to the grocer the same day (Oct. 5, 1900), were nice and clear on account of the tinfoil cap. I find that if, after sealing, the jars are left in a warm room, thus preventing the too sudden cooling of the wax on the corks, we shall have no cracks. If one-half paraffine is added to the wax it will not crack nearly as easily, besides being much cheaper.

WASHING THE BOTTLES WITH SHOT.

In regard to the washing of bottles, I had a good laugh over the little boy punching the little pieces of glass out of the bottles, especially new ones. I used to do the same thing. But how much nicer, and far more easy, and quicker, to take about 3 or 4 oz. of No. 6 shot, and the bottle half full of warm soft water! A few shakes, turn the bottle, then pass to helper, who rinses in clean cold water, and we have a clear sparkling jar which is then set upside down in a large tray to drain.

If using jars like the No. 25 and the No. 100, where it is impossible to cover the top with wax, I now pour into each a large tablespoonful of beeswax and paraffine, right on top of the heated honey, which, when cooled, effects the air-tight sealing. This is an additional inducement to my patrons, as they thus secure a nice piece of wax to slick up their irons for laundry work; while, if put on the cork, it prevents the cork from breaking to pieces while being drawn out the first time.

If I am compelled to reliquefy any bottles of honey (which is very rare) I always set the jars in vats of water deep enough to come up to the necks, as I have seen honey scorch in the lower half of a jar while the upper half was yet candied.

I would say in conclusion to those readers who have no honey to bottle, better order a few cans of extracted, and a barrel of the No. 100 or No. 25 jars, and canvass your nearest town. You will be surprised how easy it is to sell a barrel put up in this neat, useful, and attractive package. It pays to work up a trade in a bad season, for, if you sell no honey in a bad season, how can you expect to sell three or four tons when you have not previously worked up a foundation for the disposal of your coming crop?—Gleanings in Bee Culture.

Do Bees Use Water to Cool the Hive?

BY J. A. GERELDS.

JULY 6 was the hot day in Uvalde County, Texas—106 degrees in the shade—and I had a heavy loss of bees on that day by the combs melting, the honey drowning many bees and causing them to be robbed. I have heard of no other loss in the country, and some of the best bee-men have told me it was for the want of water.

I would like to state the particulars of the case in the American Bee Journal, and have the opinion of others on the subject.

I had been running about 200 colonies in one yard until last winter, when I concluded they would do better divided into two apiaries, so, finding a suitable location about 2 miles from the old yard, I cleared the brush off of a piece of ground 150x200 feet. The brush is thick all around, and six or eight feet high. I drilled a well and found water. Then I moved 100 colonies and placed them in two rows, seven feet apart, running north and south along the east side of the clearing, up close to the brush, leaving a space near the middle of the rows for a honey-house. I built the house so that I can pass through it with the wheelbarrow, and all the time be in between the rows of hives and at the back end of them, as one row fronts east and one west.

The hives are of the lock-corner 10-frame style, some having flat and some gable covers; 70 colonies are on the north of the honey-house and 30 on the south, and 60 of the 70 melted, and I lost 30 of them, while only eight fell of the 30, and I lost four of them, making a loss of 40 colonies, except that I hived the largest swarm I ever saw.

Most of the summer breeze here is from the southeast, so the brush and honey-house kept it from the ones north of the house.

I watered the bees in the yard by letting the water drip from a barrel into a flat trough. The barrel would take about two days to leak dry. I left the apiary July 2, to spend the "4th" in town; I know the bees would be out of water before I returned, but thought it would make no difference, as they had nothing else to do but carry water from the old apiary, which is about 1¾ miles on a line from the new one.

I returned July 8, to see a sight I had never dreamed of seeing; the trouble was easily seen. I walked into the honey-house, lit the smoker and put on my veil, and then took a good look before venturing out. The air was so full of bees I could hardly see across the yard. I expected they would drive me off the place, but I stepped out and walked boldly along between the rows. Looking over in front I could see where the little lakes of honey had been the day before. I began to count the wet spots in front, but when I counted ten in succession I concluded all was lost. I looked all about, not knowing what to do. Well, what could I do? To my surprise, the bees offered no objections to my presence, in fact, they did not seem to know I was there. There was a great honey-flow on, and they did not care what I did with them. But what could I do but let them alone?

I looked into four or five hives where the most bees were going in and out; they were so nearly cleaned out that I let them finish the job. Near by I saw about an ordinary wash-tub full of bees settled on a bush near the ground. I thought to hive them, so I went at it just as in swarming-time, only I prepared three boxes instead of one. I put nine combs each in two of them, and an empty one on top for air, and room. They hived nicely. I shaded them well, and left them until the next day, when I gave them about ten pounds of honey in the top box. They seem to be contented now (July 27). That was all I did in that yard for 10 days, when I started in to do my part of the cleaning up.

I was surprised to find honey in some of the robbed

FIG. 3.—LABELING AND TINFOILING WITH A CAPPING STRAP (TINFOILING SHOWN AT LEFT.)

ones, and no bees about them. I could look into the hives with bees in without smoke or veil, leave the top off, and other bees would not go about them. What was the matter? Were they tired, ashamed of themselves, or disgusted with the size of the job? Even now (20 days after) they won't smell around the old, robbed boxes left in the yard—I think because the weather is so dry and hot. There hasn't been a blossom of any kind for nearly two months.

The hives in the old apiary are the same as in the new one—arranged in the same way, two rows running north and south, fronting east and west, with the honey-house at the north end of the rows, with a clean, open ground south and east of them; but no combs melted that I know of.

Now will G. M. Doolittle, Dr. C. C. Miller, Prof. Cook, or any others, tell me if the result would have been different had the bees in the new yard been supplied with water July 6? It was not the first time they had carried water from the old apiary; they knew where it was. I think the surroundings had more to do with it than the water.

Uvalde Co., Tex., July 27.

The In-breeding of Bees.

BY GEO. SHIBER.

NOTICING the editorial on page 355 on the subject of in-breeding, and also having read in the other bee-papers what has been printed on the same subject, prompts me to add a word on the subject.

I have wondered in the years past, since I have been interested in bees, that it has never received consideration by the leading queen-breeders, that is, I suppose it has not, for I have never read anything of it until lately.

For instance, a leading queen-breeder advertised, a year or so ago, that his drones were not akin to his queen-mothers; that new, selected stock was added from time to time *to furnish drones*. You see, he was constantly selecting choice queen-mothers, and selecting choice drone-mothers, but not akin. A breeder can make some progress in this way, but it seems to me its mighty uncertain. Breeders of all thoroughbred stock tell us that two bloods coming in contact (though of the same breed) produce a shock that tends to stamp out the desirable quality—the bloods do not harmonize where coming in contact.

For illustration, take two queens whose bees are long-tongue, (admitting for argument's sake that long tongues increase the honey crop); choose one for drone-mother, the other for queen-mother. Now, when the queens and drones meet, there will be some that will be as good as their parents, but I should think few, for, from the standpoint of other stock breeders, it would be making progress backward. I would give twice as much for queens reared from a long-tongue mother, and have said queens mated to *her sons*—that would be harmony. Some would be as good as their parents, some *would be better, sure*—no doubt about that.

Perhaps my bee-keeping friends will think I am speculating too much. Not at all.

Let me call your attention to another kind of stock that I have bred for years as a sort of hobby. I refer to homing pigeons. The great aim with these "couriers of the air" is to breed for speed and long distance. A bird that can fly 500 miles in a day is a prize. Do they in-breed? Well, yes! Father and son, brother and sister, grandfather and granddaughter, and so on. Are they weak and scrawny from such in-breeding? Pick up a bird of mine that I have in mind now, which flew from Hagerstown, Md., (a distance of over 250 miles, air line) to the home loft here; released at 9 a. m., he was back in the loft (home) at 4 p. m. Some days, when he is picked up he feels hard—"hard as nails," as the fanciers say. How was he bred? Why, from a brother and sister. Mind you, this was a hard fly, as he had to come over the Allegheny mountains, diagonally across the State of Pennsylvania. Most of the leading pigeon fliers in-breed; of course this can not be carried on indefinitely; new blood has to be added, gradually, say a quarter, an eighth, or a sixteenth.

In-breeding, you see, tends to harmonize and intensify the two bloods. It is an old saying, if you in-breed stock it would soon decline and weaken. It is no doubt true; but the breeder unmercifully culls his stock. Say one season breed drones and queens together from the same mother; the next season use the same mother for queens. For drones use one of her daughters, she mated to good stock in a different yard. Then her daughter mated to a drone from the first mother of the previous year. Then you have a small fraction of new blood added, that will tend to give your stock added vigor, and will not affect the desirable qualities of the strain you are building.

I am aware of the fact that this mating of queens is hard to control, but the only thing that can be done is to make the best effort towards that end, until mating of queens in confinement is an assured fact. But not much headway will be gained by the "direct cross" spoken of by some breeders. Why, if it were not for in-breeding we never would have had White Leghorn, Plymouth Rock, Wyandotte hens, or other breeds of "made" stock, so well known by everybody. Take the Buff Leghorn hen—a new breed which was produced by in-breeding, and selection and in-breeding. There are hundreds of other illustrations.

I think this matter would best be left to queen-breeders. I have—and I suppose others have—a dozen or more different strains of Italian blood, in my apiary, but I expect to make more of an effort to rear drones from the same mother I rear queens from.

Cattaraugus Co., N. Y.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Keeping Chickens from Bees—Italians.

1. I have some bees about four rods from the chicken-house. If I clip the queens' wings, would the chickens eat them, when they swarm? They walk around the hives a good deal.

2. If I can't do this, what other method would you advise, to keep swarms from going away?

3. My bees have five yellow bands on them, but to stand far away and look at them they look pretty black. What kind do you think they are? MINNESOTA.

ANSWERS.—1. It is not likely that there would be any trouble.

2. If you should find that the queens were endangered by the chickens, it would be an easy thing to fence the chickens out from the bees, or rather to fence in the bees from the chickens. A fence around the bees, of poultry netting 18 inches high, over which you could easily step, would fence the chickens out. You cannot fence chickens in with such a low fence, but I have used it successfully around flower-beds, and not a chicken would cross it.

3. However dark they may look, the five yellow bands indicate Italian blood.

Two Ways of Putting on Supers.

There are two methods of manipulating supers during a honey-flow in common use, as follows:

First, by raising the supers when partially filled with comb honey, and putting the empty super *underneath* and directly upon the brood-chamber.

Second, by placing the empty supers *on top* of the partially filled super or supers, when additional sections are needed.

Which of the above methods do you use? and why?

"OUT WEST."

ANSWER.—Both. When a strong flow is on and there is every reason to expect its continuance, a second super is added as soon as the first is half filled. If the bees seem crowded for room it may be given before the first super is half filled. It is put *under* the first super, because that will oblige the bees to occupy it promptly, for they can not enter the upper without at least passing through the empty one. If the room seems still to be needed, a third super may be given before either of the first two are finished, and I have had as high as five or six on at a time, and not one of them finished, the last one put on always being the lowest. But it is a risky business to have so many unfinished sections on at a time, for if the flow suddenly stops,

there you are, with the cold chills running down your back at the thought of a big lot of honey on the hives and none of it in marketable condition. If, however, the flow will be accommodating enough to continue till all are finished, there may be a decided gain in having on so many sections, for the bees will have more room to work, and will do the better for it. But never get on so many at a time that all will not be crowded with bees. On the other hand, there is a loss when in a full harvest there are bees enough to crowd two or three supers and only one is on.

Toward the close of the harvest, or at any time when it is doubtful about much more being done, it is often difficult to tell whether another super should be given or not. At such times it is better to put the empty super on top, for the bees will not crowd up into it unless they really need it.

A Glucose Question.

Among other ideas I have had this one: that one reason why bee-keepers opposed the use of glucose is that it is unwholesome, if not injurious, as an article of food.

Dr. Howard Miller, editor of The Inglenook, says in the June 15th issue of his magazine, in answer to the question, "Is glucose unhealthy?" asked by one of his readers:

"No. The only thing about it is, it is not as sweet as the sugar it usually takes the place of."

Now, as the editor of The Inglenook is pre-eminently a scholar, and you are in addition a practical bee-keeper, and have reason to be thoroughly acquainted with all the properties of glucose, I would like very much to know how you consider it. MISSOURI.

ANSWER.—Chemically pure glucose is one thing, and the commercial article quite another. However correct the scholarly editor may be in thinking that chemically pure glucose is a wholesome article of diet, if he should get a swallow of some samples of the commercial article, he would be likely, after vainly trying to get the taste out of his mouth, to decide that it was neither fit for man nor bee.

An Amateur's Bunch of Questions.

1. When the honey-flow is plentiful, why do some apiarists place a second super between the brood-chamber and a filled super?

2. I have my colonies on trestles, made of 2x3 stuff nailed together in stretcher form, with legs nailed so the hives are about 12 inches from the ground, placeing three colonies in a group. What objection is there to this plan? Why?

3. I use a common white table-cloth with smooth or glazed surface on top of sections as a sort of cover or blanket. Is it a good or bad thing to do? What objections can be offered to such use? Why?

4. Does the queen ever leave the hive except at swarming-time?

5. When (at what age) does the virgin queen leave the hive, and how long from the time she mates does she produce eggs?

6. Why do we find more drones in some colonies than in others, although apparently about equal in numbers?

7. Is it possible that a colony will carry over one or more drones during winter?

8. If two colonies with brood-chambers well filled with honey, and supers containing sections with starters, were given 50 pounds of extracted honey, how much would be stored in the sections?

9. How can honey be made more liquid, or thinner, or gravity lessened?

10. What is honey-dew? INDIANA.

ANSWERS.—1. To give room for the bees to store more honey, of course. Perhaps you mean to ask why they put the empty super under the one partly filled instead of putting it over. Because the bees will begin work in it sooner if the empty super is under instead of over; and because the sections in the filled super may be capped a little whiter when raised up. Perhaps, however, you mean to ask why the empty super is put on at all before the other is finished and taken off. Because after the sections are all filled the bees take some time to finish up the sealing at the outer parts, and it would be a waste of time to wait till the first super can be taken off.

2. In the height of the honey-flow the bees often fall to the ground in front of the hive as they come from the fields heavily laden, and they must rest quite a little time before they can rise and fly to the entrance. With the hive on a stand near the ground they can crawl in at once without waiting to fly in.

3. I formerly used enameled cloth over the sections, and the bees not only put propolis in the angle where the oil-cloth rested on the sections, but crowded it under the oil-cloth and on the sections. I find the sections less daubed since there is nothing over them but the board cover with a bee-space between.

4. No, not after she begins laying.

5. She makes her bridal trip when about five to eight days old, and begins laying about three days later.

6. In some hives there is little or no drone-comb, so of course few or no drones will be reared, while in other hives a large amount of drone-comb gives opportunity for many drones. A colony with a young queen is not likely to have as many drones as one with an old queen.

7. Yes.

8. I don't know. Some say they can get ¾ of it in sections, others say not more than ¼.

9. Add water to it.

10. The secretion of plant or scale lice, and also, according to some authorities, an extra-nectarine secretion of plants without the presence of plant or scale lice.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

SUPERSEDING QUEENS BY RULE.

Procrustes kept a nice lodging-house—leastwise he had an iron bed with chopping-off arrangement and power stretchers attached. Every lodger had to be made to fit the bed, no matter at what cost of blood and groans. Distant cousins of Procrustes are those brethren who supersede every queen at the same exact and early date of her life. She may be good for a month yet, or may be good for three years yet—all'ee same chop goes the Procrustean bed. Who knows but what the longest tongued bees in the country have their line terminated by that chop? Mr. Doolittle's way of giving a protected ceil, and letting the bees decide whether they want the young queen or the old one, seems to be much the wiser way. Bees show more practical sagacity in such matters than to most of us seems possible. Page 467.

PEAR-BLIGHT AND THE BEES.

It is evidently quite a "peck of half bushels" our cause is getting into in California about the pear-blight. If the fruit-men not only have assurance that the saint might have stolen the horse, but star testimony that the horse won't let sinners ride him under any circumstances, why then the case begins to look a little dark for the saint. Ernest Root is evidently sound, that there must be more evidence than *one* scientist as to the impossibility of blight traveling on the wind. The fact that extensive young orchards which have never bloomed yet are as badly infected as any is a tower of strength to us which we should make the most of. I'll venture the guess that the smallest size of bark-louse-eating birds do *most* of the infection—getting the infected viscus on their feet, and leaving some wherever they go in search of little insects. Prof. Cook's opinion, expressed on page 516, is important. He feels sure that there will be plenty of means whereby infection will be carried, even after the removal of the bees—and without calling on the wind, either. Leastwise let us not "get off the earth" with any needless haste. Possibly a little silent inertia will do us good—let the other fellow do nine-tenths of the talking, and most of the acting. Perchance most of this is merely a cloud, and it is the tendency of clouds to roll by. Page 468.

QUEEN SUPERSESSIONS AND LINDEN BLOOM.

Three-quarters of all supersessions within three weeks of the close of the linden. I wonder how widely that is true in other yards than Mr. Doolittle's. Perhaps where there is no linden the last strong flow of the season would be its equivalent. In my yard I "kind o' think" that more than the remaining one-quarter occur in swarming-time just before the linden. I may be quite wrong—only go by my guess as to how many prime swarms have virgin queens. I suppose the general principle is that when bees are rearing little brood,

and want but little, they are much more patient with a declining queen than when everything is on the boom. Probably linden would have no relation to the matter where there is only a tree or two of linden—or no flow from a larger number of trees. And also in a very bad year (I think we have heard) queens live over, and supersessions come in a pile next year. Page 467.

DIDN'T SELECT THIS HOME BEFORE SWARMING.

Yes, Mr. Hobbs, the swarm that flies seven miles, two miles of it through timber containing numerous good homes, and locates finally in a cavity not fit to winter in—they manifestly didn't select their home before swarming. Page 475.

"MAKING" NATURAL SWARMS.

The imitation of natural swarming given by Doolittle on page 478 may be quite valuable. Very little things oft turn the scale between failure and success, and the ¾ hour spent homeless and clustered like a swarm may be one of them. The crucial point, of course, is whether the bees in a body actually do stay put, or whether a large fraction of them return to the old stand. Not unwise to hold the thing as an experiment until many brethren have had continued success in making all the bees stay.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

OUR SOCIAL LIFE.

The Good Book is well named—The Bible—which means "the book." It is *the* book. The other name—the Gospel—means "good news." And it is good news, indeed. It always advises us rightly and so, of course, wisely. How good to have a friend, ever close at our elbow, that will ever have the wisdom and the interested sympathy always to advise us aright. Many of us have been thus blessed in our life companions. How well we have learned our good fortune and our blessing.

The dear, old Bible may be just such a treasured friend to every one. It, like its author, is too wise to err, too good to be unkind. This dear old volume says that he that neglects those of his own household is worse than an infidel. It is suggestive, as it puts action ahead of belief. I suppose for the same reason that James, in his epistle, exhalts works. Our actions bespeak the heart's status. Ever to ask aright means ever to be right. I am glad that the precious old book exalts the home love. The home at its best, where all the heart-throbs are true, and all the life sympathies are quick and responsive, where each truly holds other better than himself, and is happiest in ministration—such a home is earth's dearest and best boon. It is one of the things most to be sought after—and, when won, most to be prized.

But the dear old book does not stop there. It urges us not to forget to assemble ourselves together. It is our blessed privilege, no less than our sacred duty, to give our first thought and best love to home and its members. If that home is what it should be, and rightly influences us, as it ought and will, then it will never fence in our love to keep it all to itself. It will so touch life with the spirit of sweet helpfulness that all in the home will reach out to bless and help those of other homes.

It was my good fortune to be in Columbus, Ohio, when our beloved and martyred president, James A. Garfield, was elected to the United States Senate. I heard his speech as he responded to the notification of his great, good fortune. He said, in short, that it had given him pleasure, when he had been so fortunate as to act in a way to meet the approval of his countrymen the country over. It brought a deeper gratification to know that he pleased the people of his own State—Ohio. He was yet more pleased at the applause of those of his own district; and the heart-beats were stirred more at the plaudits of those of his own home—his very neighbors. A still keener relish greeted the approval of the dear ones of his own home circle, and the best satisfaction of all came when he wholly pleased James A. Garfield. I suppose it is the best satisfaction, when our own consciences say without let or hindrance, "Well done."

So in our ministrations. Our greatest duty is to ourselves. We can never give to our best friends so dear a gift as our own best manhood. Next we should reserve our most beneficent thought and bestowments for the home circle. No man can give his best to his neighbors who has not already given better thought and attention to his very own loved ones.

Next, the arms of our love should encircle our neighbors. The man who does not gild the pathways of his own town with acts of thoughtful, unselfish love, which attracts all to him, is not the truest patriot who will best serve his State and nation. And may I not say that the best, truest lover of country is one whose face brightens most as kind, true things are said of his own beloved State. If the State love of the South had been as wise as true, their patriotism would have been broader, and the fearful havoc of war might have been stayed.

Our home circles, then, if sweetest and truest, will cast about to brighten, refine and elevate all the neighboring homes. This will surely react and every home circle will sound a truer note of worth and virtue, because all the homes are in unison. I suppose we must have different churches, just as we are told that divorce was suffered because of hardness of heart. But I have often thought wistfully of the good time when we should have only one church, for all would wish to be in one fold. How delightful when some one neighborhood club, literary and social, takes all into its fond embrace. Claremont has but one church. Claremont has a literary club and a horticultural club, both of which take in nearly all. *All* are welcome to each.

Michigan is forging ahead as few other sections in the country are. Even her people in the rural regions are acting together in a most wise and sensible way to secure the best things. Her hundreds of farmers' clubs, and other hundreds of granges, explain the rapid advance.

Southern California is holding up to the view of the world an example of successful co-operation among her fruit-men that must prove of immense value to us and to others, who surely will soon hasten to follow our example. Southern California has many successful, active clubs. These are mainly horticultural or pomological. A few are more in the trend of dairy interests. These clubs unite the people socially, make them pull as one in business affairs; tend to make the best work and methods of the community the common work and method; insure wise effort to direct and influence. These clubs are wonderful promoters of co-operation. Our Southern California Fruit Exchanges surely owe much of their phenomenal growth and success to the work of these clubs. They prepare the way.

In our "Farmers' Institutes" of Southern California we always aim to form a club, in case one is not already in existence, at each place, and we rarely fail to do so. These become social as well as economic functions, and their power for good in the community is tremendous. In some cases these monthly club meetings, which are usually held at the homes of the members, are held in the daytime, and the host furnishes a dinner for all. This, of course, involves some expense and much work, yet if there are 24 members or families in the club, this only comes once in two years, and, when once over, two years of sumptuous monthly dinners are a certain expectancy. These frequent visitations keep the place fixed up, and are wonderful promoters of good fellowship in the community. In some cases they have served to advance the price of property, so valuable have been their work and influence. They have come to stay, and will hasten the glad time when farmers will no longer be handicapped by entire lack of organization, but will, through such organization, be as able to co-operate as are those of other crafts and business. These frequent and pleasant meetings insure a united and harmonious community, and will react to bring more of love and accord, I am sure, in every home.

There is just one impediment in the way of the success of these organizations, and this is the great bar to the best fruition in all enterprise and progress. This is selfishness. Our work pushes. Business seems imperative in her demands, and when club-day comes, we often forget, even though we may be on the program for the day, that our work is then at end for the club, and our business is to be there; and we stay at home. Very frequent mistakes of this kind will surely sap the interest in any club. Thus, for our own good, and for the good of our club and community, we must all pledge our full sympathy and support to the club.

These clubs have been so full of energy and so abundant in good fruits in Southern California, that they are becoming substantial factors in our rural life, and promise much for the future. Let it be a part of the good work of all our home circles, to help to inaugurate, sustain and make successful in all our communities such clubs. They promise much for our homes, our neighborhoods, and for our country. Their promotion will be among the best part of our work and duty.

ADVERTISEMENT.

To Our Shippers:

We were obliged to notify you a few weeks ago that one Joseph M. McCaul had leased our old quarters at Nos. 120–122 West Broadway, New York City, and had there started up business under the name "HILDRETH, McCaul Co.," and had distributed a multitude of circulars so worded as to create the impression that his business was a successor to or a branch of the business of Hildreth & Segelken.

For the protection of our shippers and ourselves, we at once instructed our attorney to commence action to enjoin the said McCaul from using the name HILDRETH in any manner whatsoever in connection with his business. On the 10th day of July, 1901, Hon. David McAdam, Justice of the Supreme Court of the State of New York, after a full argument upon the merits, issued a peremptory injunction, of which the following is an extract:

"And it appearing that the plaintiffs have for a long time been and now are carrying on business under the style of 'Hildreth & Segelken,' and that the defendant has recently opened a business at 120-122 West Broadway, in the Borough of Manhattan, City of New York, and is carrying on the same under the style of 'Hildreth, McCaul Co.,' and that such act is in violation of the plaintiffs' rights, and that the commission or continuance thereof, during the pendency of this action will produce irreparable injury to the plaintiffs; it is

ORDERED that the defendant (Joseph M. McCaul) and each of his agents, servants and employees and all other persons acting under his authority and direction be, and he and they are hereby restrained and enjoined from showing, displaying or otherwise using during the pendency of this action in or upon any papers, devices, sign or signs, or otherwise, in the business conducted by the the defendant at No. 120-122 West Broadway, in the Borough of Manhattan, City of New York, or elsewhere the name of "Hildreth" separately or conjunctively with any other name, designation or description."

Outside of our desire in our own interests to protect the name which we have built by years of satisfactory dealings with our customers, we hastened to procure this injunction as soon as possible, to prevent our shippers from being misled into sending their goods to one who would make an attempt to gain their trade by such a trick and device.

With thanks for the many expressions of good-will we have received from our shippers concerning this attempt to trade under our name, we are, Sincerely yours,

HILDRETH & SEGELKEN,

265-267 Greenwich Street, NEW YORK, N. Y.

GENERAL ITEMS

Bee-Keeping in British Columbia.

It may interest some of the readers of the American Bee Journal to know I have initiated the successful keeping of bees in this section of the country. I know of no other bee-keeper in this whole district—certainly there are no bee-keepers nearer than 40 miles, that is, at Nelson, and I do not know of any there.

I was told that bees would not do here. A Mr. Powers brought some here a few years ago, and they could not find food, and he assured me I would fail. But I am a man "wonderfully wedded to my own opinions," and my present success is not going to make me have less faith in my own ideas.

I bought a colony of hybrid-Italians in Vancouver last spring, and they have given me three swarms, the first of which is doing remarkably well. They have two supers over a 10-frame Langstroth hive filled with honey already. That means between 60 and 70 pounds of honey for me, and it is 25 cents a section here. The original colony is not doing so well. They will not take to the supers, and appear lazy. Yesterday I tried to stir them to activity by taking a frame of honey from the brood-chamber and replacing it with an empty frame.

The other two colonies are doing pretty well, and have their winter supply, but nothing so far for me.

I think that when Mr. Powers first brought bees here there may have been no proper food for bees, but since then the town site has been cleared off, and the white clover is occupying the ground.

While writing this letter I have had a visitor from Nelson, who tells me he has bees there,

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.

QUEENS ...

Long-Tongue Golden 5-Banded....

Now is the time to requeen, when you can get the very best strain of untested queens for 50 cents each, or $5.50 per dozen. Tested, 80 cents each, the rest of this season; breeders, $2.25 each. I make a specialty of queen-rearing having had 35 years of practical experience with bees. I have over 400 fine Queens, and can fill orders on the same day I receive them. We have five mails a day.

This advertisement will not appear again. Remit by post-office money order.

DANIEL WURTH,
Coal Creek, Anderson Co., Tennessee.
[Mr. Wurth is perfectly reliable.—EDITOR.]

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

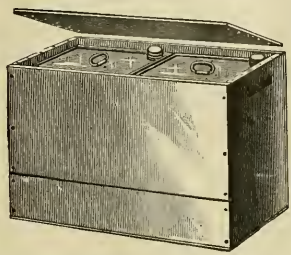
BEST

Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 8 cents per pound; four or more cans, 7½ cents per pound. Basswood Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are boxed. This is all

ABSOLUTELY PURE HONEY

The finest of their kinds produced in this country.

Read Dr. Miller's Testimony on Alfalfa Honey:

I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more marked flavor, according to my taste. C. C. MILLER.
McHenry Co., Ill.

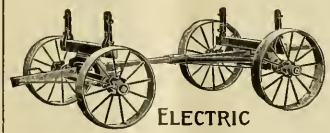
Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

Farm Wagon Economy.

The economy of this proposition is not all found in the very reasonable price of the wagon itself, but in the great amount of labor it will save, and its great durability. The Electric Wheel Co., who make this Electric Handy Wagon and the now famous Electric Wheels, have solved the problem of a successful and durable low-down wagon at a reasonable price.



ELECTRIC

This wagon is composed of the best material thruout—white hickory axles, steel wheels, steel hounds, etc. Guaranteed to carry 4000 lbs. These Electric Steel Wheels are made to fit any wagon, and make practically a new wagon out of the old one. They can be had in any height desired and any width of tire up to 8 inches. With an extra set of these wheels a farmer can interchange them with his regular wheels and have a high or low-down wagon at will.

Write for catalog of the full "Electric Line" to Electric Wheel Co., Box 16, Quincy, Ill.

Please mention Bee Journal when writing advertisers.

SUPERIOR

Red Clover Queens

We have obtained, this season, 150 pounds of comb honey per colony, one-third red clover honey. Untested, 75 cents; ½ doz., $4.00. Tested, $1.00; ½ doz., $5.50.

LEININGER BROS., Ft. Jennings, O.
34Etf Please mention the Bee Journal

QUEENS! QUEENS!

From honey-gathering stock. Tested, $1.00; untested, 75 cents. "SHADY NOOK APIARY."
JAMES WARREN SHERMAN,
29A13t SAG HARBOR, NEW YORK.

ALBINO QUEENS If you want the most prolific Queens—If you want the gentlest Bees—If you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.
11A26t J. D. GIVENS, LISBON, TEX.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,
130 Market Street, - SAN FRANCISCO, CAL.

Bees that Have a Record

(See page 489 American Bee Journal.)

Have longest tongues, handsome, gentle, great hustlers for honey, all tested queens, and sold at rate of $8 per dozen. By return mail.

HENRY ALLEY, Wenham, Mass.
31A8t Mention the American Bee Journal.

BEES WAX We will pay 26c. cash, per lb. for pure, bright yellow beeswax, and 20c. cash, per lb. for pure, dark beeswax delivered here. CHAMBERLAIN MEDICINE CO., Des Moines, Iowa.
27A13t Please mention the Bee Journal.

TENNESSEE QUEENS....

Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3½ miles apart, and mated to select drones, $1.50 each; Untested Warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and but few within 5 miles. 28 years' experience. Discount on large orders. Contracts with dealers a specialty.

JOHN M. DAVIS,
34A3t SPRING HILL, TENN.
Please mention Bee Journal when writing

Wanted Parties to make PATENT COMB FOUNDATION on royalty. Also, 108 colonies of bees for sale (on 8 L. frames), at $1.50 each.

H. VOGELER, New Castle, Calif.
36A1t Mention the American Bee Journal.

UNTESTED

Italian Queens Free

BY RETURN MAIL.

For sending us **One New Subscriber** for one year, to the American Bee Journal, with $1.00, we will send, **by return mail**, a fine Untested Italian Queen free. This offer is made **only to our present regular subscribers.**

We will mail one of the above queens alone for 75 cents; or 3 for $2.10.

Please do not conflict the above offer with the one on another page which refers to Red Clover Queens. For sending us **one** new subscriber at $1.00, and 25 cts., we will mail you free an Untested Red Clover Italian Queen.

GEORGE W. YORK & CO.
144 & 146 Erie St., - CHICAGO, ILL.

and he is the only bee-keeper in that locality. He beats me, for he has had five swarms from one colony, making six in all, and they are doing well.

I have only to add that he and I are both beginners, and I value highly the hints I get from the American Bee Journal.

British Columbia, July 24. H. BEER.

The Honey Market in California.

The honey season is ended for this year in this locality. Our honey is in packages, and the most difficult problem for the bee-keeper is upon us—disposing of our honey at a price that will give us honest remuneration for the labor expended and capital invested.

I have heard some say the market is demoralized; I do not consider it so. A demoralized market is one where the product is thrown on the market and sold for what it will bring, and where there are more sellers than buyers. I am pleased to note that such is not the case in Southern California at present. There is very little honey moving, not because there are no buyers, but because the buyers are not offering what the producers think they are entitled to.

While there is no organization or general understanding amongst bee-keepers, yet there seems to be a general feeling that we ought to have, and will get, 5 cents a pound for this year's crop of extracted honey, and they are almost to a man living up to their feelings, and holding their honey; and I think if they hold on for 60 days longer they will realize their expectations.

Every little lot that is sold at the price the buyers are offering, the report of that sale is hawked all over the country, and made the most of to scare holders. J. W. GEORGE.

Riverside Co., Calif., Aug. 8.

An Experience and a Question.

I am not one of those lucky bee-keepers who get large yields of honey, yet I get fair yields. I keep a record of every colony, the date of swarming, etc. My hives are all numbered. If they have prolific queens it is so marked on the book, and those that are extra honey-gatherers are also marked. I started in the spring with nine colonies, and now I have 26, and have taken off 300 pounds of comb honey. I will give the record of one colony, and then ask a question for Dr. Miller to answer:

May 20 I bought a colony of bees in a two-story hive for $2.00. When I got them home I examined them, and found the upper story full of brood. June 19 they cast a swarm; it was very large, and when hived it filled a 10-frame hive apparently full. The hive of the old or parent colony is No. 21. The new swarm was hived in No. 15. In nine days after the first swarm No. 21 cast a second swarm, which was hived in No. 11. About five days after this, when I was absent from home, my son-in-law saw a swarm of bees in the air, but could not tell what hive they came out of. They clustered, and he hived them; it was a very small bunch. There was a space of about six inches between hive No. 15 and No. 11. A day or two after this little swarm was caught, I saw bees going on the alighting-board from No. 11 to 15, and on looking into No. 11 I found some comb, but no bees. On the 13th—24 days after the

Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application. BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

Bees = Supplies

CATALOG FREE.

I. J. STRINGHAM,
105 Park Place, - NEW YORK, N. Y.
13A26t Please mention the Bee Journal.

Langstroth on... The Honey-Bee

Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.

FREE FOR A MONTH....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper published in the United States.

Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.
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PAGE

IT'S UP TO YOU!

NOW will you try PAGE Fence? It's a good one.
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.
Please mention Bee Journal when writing.

swarm was hived in No. 15—they cast a large swarm, and also had 28 sections nearly full, which they soon finished, and I took it off and gave them 28 empty sections, which they now have nearly filled. The old colony, after casting two swarms, filled the upper story with honey, and I extracted 35 pounds from them. I now have four colonies of bees and 64 pounds of honey, and more to take off, from my $2.00. Now here is my question for Dr. Miller: If it takes 21 days from the laying of the egg to mature a bee, and a few days to make comb for a queen to lay in, how do you account for the large amount of bees in No. 15, so that they cast a large swarm in 25 days after being hived; also nearly filling 28 sections? And yet, after casting a swarm they continued to work in the boxes without any apparent loss of bees? The second swarm in No. 11 was almost as large as a prime swarm. Did a part of them swarm out, making the little swarm I have mentioned? If so, what became of the balance? Would they be received into No. 15?

S. B. SMITH.

Millelacs Co., Minn., Aug. 5.

An Amateur Transfer of Bees.

Having purchased a colony of bees in a box-hive the fall of 1898, and failing to secure any surplus in honey or swarms in 1899 and 1900, I decided to transfer this colony, win or lose. I read much on transferring, and sought to put in practice a part, at least.

About May 1 (apple blooming) I made preparations. A box eight inches deep and the same size as the bottom of the box-hive was made. An 8-frame dovetailed hive was gotten ready in this style: Four frames filled with comb were taken from four other hives (one from each hive), the outer frame being taken. No attention was given as to selection of frames. They contained in part some honey, empty cells, and perhaps eggs or

BARNES' FOOT POWER MACHINERY

Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey racks, 500 brood-frames, 2,000 honey boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

Address, W. F. & JOHN BARNES, 995 Ruby St., Rockford, Ill.

Please mention Bee Journal when writing.

Catnip Seed Free!

We have a small quantity of Catnip Seed which we wish to offer our readers. Some consider catnip one of the greatest of honey-yielders. We will mail to one of our regular subscribers **one ounce** of the seed for sending us ONE NEW subscriber to the American Bee Journal for a year with $1.00; or will mail to any one an ounce of the seed and the American Bee Journal one year—both for $1.30; or will mail an ounce of the seed alone for 35 cents. As our stock of this seed is very small, better order soon.

GEORGE W. YORK & CO.,
144 & 146 Erie St., - CHICAGO, ILL.

G. B. LEWIS CO. TRADE GB LCo MARK WATERTOWN WISCONSIN U.S.A.

BEE-KEEPERS' SUPPLIES

THE FINEST IN THE WORLD.

Our New 1901 Fifty-Two Page Catalog Ready.
Send for a copy. It is free.

G. B. LEWIS COMPANY, Watertown, Wis., U.S.A.

Branch, G. B. LEWIS Co., 19 S. Alabama St., Indianapolis, Ind.
Excellent shipping facilities and very low freight rates for Southern and Eastern territories.

Please mention Bee Journal when writing.

25 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 25 cents a pound—CASH—for best yellow, upon its receipt, or 27 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

Standard Bred Queens.

Acme of Perfection.
Not a Hybrid Among Them.

IMPROVED STRAIN GOLDEN ITALIANS.

World-wide reputation. 75 cts. each; 6 for $4.00.

Long-Tongued 3-Banded Italians

bred from stock whose tongues measured 25-100 inch. These are the red clover hustlers of America.

75c each, or 6 for $4.00. Safe arrival guaranteed.

FRED W. MUTH & CO.
Headquarters for Bee-Keepers' Supplies,
S.W. Cor. Front and Walnut Sts.
Catalog on application. CINCINNATI, O.

QUEENS

Now ready to supply by returned mail. STOCK which can not be EXCELLED !!!

Bred under the SUPERSEDING CONDITION of the colony.

GOLDEN ITALIANS, the GREAT HONEY-GATHERERS. They have no SUPERIOR and few equal. 75c each; 6 for $4.00.

RED CLOVER QUEENS, the LONG-TONGUED ITALIANS, which left all RECORDS behind in GATHERING HONEY, $1 each; 6 for $5. SAFE ARRIVAL GUARANTEED.

C. H. W. WEBER, Successor to CHAS. F. MUTH, 2146 & 2148 Central Ave., CINCINNATI, O.

Headquarters for Bee-Supplies. | Root's Goods at Root's Prices.

Catalog free; send for same.

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If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.25 to

Prof. A. J. Cook, Claremont, Cal.,

FOR HIS

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

Please mention Bee Journal when writing.

Send for circulars regarding the oldest and most improved and original Bingham Bee-Smoker. FOR 23 YEARS THE BEST ON EARTH.

25Atf T. F. BINGHAM, Farwell, Mich.

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BEE-SUPPLIES!

ROOT'S GOODS AT ROOT'S PRICES.

Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.

WALTER S. POUDER.
512 MASS. AVE. INDIANAPOLIS, IND.

A Superior Red Clover Queen

(AN UNTESTED ITALIAN)

For sending us One New Subscriber and 25 cents ($1.25 in all.)

We arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us this season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he uses is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

All queens guaranteed to arrive in good condition, and all will be clipped, unless otherwise ordered.

We would like each of our present readers to have one or more of these fine Queens. Simply send us the name and address of a new subscriber for the American Bee Journal for one year, and 25 cents extra, and the Queen will be mailed to you. Our queen-rearer is now caught up with orders, and expects to be able to mail them hereafter within 48 hours after we receive the order. He is in another State, and we will send him the Queen orders as fast as we get them at this office. He is prepared to rear and mail a large number.

The cash prices of these Queens are $1.00 each; 3 for $2.70; or 6 for $5.00.
Send all orders to

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

THE MODERN FARMER & BUSY BEE.

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A live, up-to-date Farm Journal with a General Farm Department, Dairy, Horticulture, Livestock, Poultry, Bees, Veterinary, Home and General News. Edited by one who has had practical experience in every department of farm work. To introduce the paper to new readers, it will be sent for a short time to New Subscribers, one year for 25 cents. Sample copies free. Best Advertising Medium in the Central West. Address,

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THE RURAL CALIFORNIAN,
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brood. These four frames were placed in the center of the new hive, and two frames with starters were placed on each side of this brood-nest. With a blanket, smoker, cold chisel, and hatchet, we went to destroy and to build.

The blanket was spread, and the old hive was placed on it, the new hive occupying about the same place as the old, while the old hive was placed about three feet and at right angles to the new hive. After smoke came the battle. I now turned the old hive bottom end up, and placed the box aforesaid on top, after removing the bottom-board. Then more smoke and hammering on the box to get the bees to move upward into it.

After ten minutes of such coaxing I lifted the box to see the catch. A surprise—about a good, big handful only. These were dumped out on a blanket in front of the new hive. Part started into the new hive while part went in the air. I sighed, and wondered how long it would take to get this colony moved into their new home-to-be at this rate. I unread myself, as it were, and proceeded on my own "hook."

The old hive was returned bottom side down, less the bottom-board, and cold chisel, hatchet, and man soon removed two sides and laid bare the comb and bees. I cut out those old combs, rusty and crusty. The combs, when out, one by one, were given a jar at the front of the new hive, and clinging bees were soon off. The third comb removed had the queen—she went in like a lady.

When all combs were removed I found I had a plenty—I think enough to fill 20 Hoffman frames. It was old, perhaps containing comb that had been built 20 years, as the hive had been made of yellow poplar that now was so weather beaten and checked as to be through in places.

While queen and workers were surveying the new quarters, I arranged a super with the fence separators, leaving out the sections. I now took up the comb pile and cut out all sealed worker-brood into strips of no particular length, but four inches wide, and put it in place of the sections. I put this in the brood-chamber, spread over the top a woolen blanket, put on the cover, and let them go at that. In a half hour from the time of beginning all was complete, and house-cleaning was in full progress.

The honey in the old comb was unfit for table use, so it was placed in three or four shallow pans about the yard, and the five colonies soon had the honey home. About two pounds of beeswax was rendered from all the combs after they were cleaned by the bees.

Twenty-one days later I examined the new home, and found most of the sealed brood hatched. I removed the old strips and put on a super filled with sections containing starters.

Now as to results: June 29 I took from this colony 24 full sections of well-capped white clover honey, and gave another super. July 15 I took this super with the same results as before, making in all 48 pounds for this colony, besides a full house below, and lots of bees.

Our honey season closes about the middle of July. We have had the best honey-year since 1895—an abundance of white clover till the drouth began. Our prime swarm, cast June 3, has done as much as this transferred colony. I feel that I have been successful in this transfer, and would like to know if such a way would always be successful, say in a poor honey-year. T. F. WEAVER.

Fountain Co., Ind., Aug. 3.

A Pretty State of Things.

Mr. Editor will remember my new hive, that I was at so much pains to make. Twenty frames and painted a gentle clover green! Well, what do you think? About two weeks ago I gazed into its inwardness and beheld what could be not less than 50 pounds of luscious honey in those combs.

One afternoon, this week, I noticed that quite a lot of bees seemed aimlessly flying before the entrance, neither bringing in stores nor flying to the fields for supplies. I thought appearances strange, and forthwith inspected that colony again. I raised some of the most attractive frames, and, lo! they were remarkably light, just heavy enough to account for the wax they contained. I tried another with the same results. Now, why is this thusly? In handling all the frames I found but few with a little brood, and not three pounds of honey to that colony. Ha! ha! I have the secret. Robbers! But how can that occur with a pretty strong colony and a small—three-inch—opening to guard?

But presently I saw the cause of the whole trouble. I thought I had made the hive-cover perfectly tight, but the thing had warped, and one corner failed to connect, leaving a space quite large enough to admit several bees at once, and then my conclusions were clear and rapid.

I transferred that colony into a 10-frame hive at once, before the little honey that was left could entirely disappear, closed up half the entrance, and saw to it that no more ex-

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

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GEORGE W. YORK & CO. St., Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

tra openings were left. Up to date that family seem happy and industrious, trying to lay in stores enough for the winter.

I am twirling my thumbs and pondering how my carelessness will cost me a half hundred weight of nice honey, at least, and a weakening of a comparatively strong colony, besides.

But most of us learn by our mistakes more than from our successes. DR. PEIRO.

Cook Co., Ill., Aug. 27.

Rocky Mountain Bee-Plant Seed!

(Cleome integrifolia.)

...FREE AS A PREMIUM...

The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows from two to three feet in height and bears large, clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us ONE NEW subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.

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We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog.
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(Exact size of the Pen.)

FREE as a.... Premium

A Foster Stylographic PEN....

This pen consists of a **hard rubber** holder, tapering to a **round point**, and writes as smoothly as a lead-pencil. The **point** and **needle** of the pen are made of **platina**, alloyed with **iridium**—substances of great durability which are not affected by the action of any kind of ink.

They hold sufficient ink to write 10,000 words, and **do not leak or blot.**

As they make a line of **uniform width** at all times they are **unequaled for ruling purposes.**

Pens are furnished in neat paper boxes. Each pen is accompanied with full directions, filler and cleaner.

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19,000 Postmasters use this kind of a pen. The Editor of the American Bee Journal uses the "Foster." You should have one also.

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And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white).....	$ .70	$1.20	$2.75	$5.00
Sweet Clover (yellow)....	.90	1.70	4.00	7.50
Alsike Clover	.90	1.70	3.75	7.00
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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Wanted.

Comb and Extracted Honey. Will buy your honey no matter what quantity. Mail sample of extracted, state quality of comb honey and price expected delivered in Cincinnati. I pay promptly on receipt of goods. Refer you to Brighton German Bank, this city.

C. H. W. WEBER.
2146-2148 Central Ave., CINCINNATI, OHIO.
29Atf Please mention the Bee Journal.

Wanted To Buy Honey

What have you to offer and at what price?
34Atf ED WILKINSON, Wilton, Wis.
Please mention Bee Journal when writing.

Wanted

Fancy White Comb Honey in no-drip cases; also Extracted Honey. State price, delivered. We pay spot cash. FRED W. MUTH & Co., Front & Walnut Sts., Cincinnati, Ohio. Reference—German National Bank, Cincinnati.
28A17t Please mention the Bee Journal.

Queen-Clipping Device Free....

THE MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

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Chicago, Ill.

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If you have large or small lots of HONEY to sell.

State quantity, how put up, kind of honey, price expected, and, if possible, mail sample. We pay spot cash.
REFERENCE—Wisconsin National Bank.

E. R. Pahl & Co.
34Atf MILWAUKEE, WIS.
Please mention Bee Journal when writing

Wanted Comb and Extracted Honey!

State price, kind and quantity.
R. A. BURNETT & CO., 199 S. Water St., CHICAGO
33Atf Please mention the Bee Journal.

Wanted—Honey.

Car Lots or otherwise; will pay highest market price, spot cash. Address, stating quantity, quality, and price desired at your station. Will send man to receive when lot is large enough to justify. THOS. C. STANLEY & SON,
31Atf FAIRFIELD, ILL.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Aug. 22.—White comb brings 15c per pound for the choice grades, with other lines not grading No. 1 selling at 13@14c; light amber, 12@13c; dark, 10@11c. Extracted, fair demand at 5½@6c for white, and 5¼@5½c for amber; dark grades, 5c. Beeswax steady at 30c for choice yellow. R. A. BURNETT & Co.

CINCINNATI, Aug. 10.—The honey market is rather dull on account of the warm weather. Extracted sells only to manufacturers from 5@6c; better grades alfalfa water-white from 6@7c; white clover from 8@9c. Fancy white comb honey sells from 13½@15½c.
C. H. W. WEBER.

BOSTON, Aug. 19.—Our market to-day is about 16@17c for fancy; A No. 1, 15½@16c; No. 1, 14@15c. Extracted, full supply, light demand.

Several lots of new Vermont honey in cartons have thus far been received, meeting a ready sale at 17c, although of course in a small way. The trade generally seems disposed to hold off, looking for larger receipts and lower prices. This is somewhat due, of course, to the fact that the demand is still light owing to the warm weather. Cooler weather will make a better demand and naturally make a better feeling.
BLAKE, SCOTT & LEE.

ALBANY, N. Y., Aug. 20.—We quote: Fancy white comb, 16@17c; No. 1, 15@16c; No. 2, 13@14c; mixed, 12@13c. Extracted, light, 7@7½c; mixed, 6½@7c. H. R. WRIGHT.

OMAHA, Aug. 8.—New comb honey is arriving by express in small quantities from Iowa and Colorado, and selling at $3.50 per case in a retail way. California extracted honey is being offered carlots at 4½@4¾c per pound, f.o.b. California shipping-points, but we have not heard of any sales having been made thus far. The production of extracted honey seems to be quite large this year in Colorado, Utah and California. PEYCKE BROS.

NEW YORK, Aug. 7.—There is some demand for new crop of comb honey, and receipts are quite numerous for this time of the year. They have been principally from the South, but we are now beginning to receive shipments from New York State and near-by. We quote: Fancy white, 15c; No. 1 white, 13@14c; amber, 11@12c. No new buckwheat is on the market as yet, and we do not expect any before next month.

Extracted is decidedly dull. Plenty offerings, with only a limited demand, and quotations are rather nominal. We are selling at from 5@6½c, according to quality, and Southern in barrels at from 55@65c per gallon. Beeswax dull and declining; for the present we quote 27@28c.
HILDRETH & SEGELKEN.

DES MOINES, Aug. 7.—There is very little doing here in new crop of honey. Some small lots of near-by produced comb honey are on the market and selling in a retail way at $3.50 to $3.75 per case. We do not look for much trade in this line before Sept. 1. Our market does not consume a great deal of extracted honey.
PEYCKE BROS. & CHANEY.

DETROIT, Aug. 12.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.
M. H. HUNT & SON.

BUFFALO, Aug. 10.—Quite a good demand for fancy honey, 16@17c, and lower grades, 12@14c; old neglected. Advise moderate shipments only of new as yet. BATTERSON & Co.

SAN FRANCISCO, Aug. 14.—White comb, 11@12½ cents; amber, 8@10c; dark, 6@7½c. Extracted, white, 5½@—; light amber, 4¾@5c; amber, 4@4½c. Beeswax, 26@28c.

Market continues quiet, with apiarists, as a rule, unwilling to unload at prices generally named by wholesale operators. Quotations represent as nearly as possible the values ruling at this date for round lots, although free sales could not probably be effected at full figures, while, on the other hand, higher prices than quoted are being realized in the filling of some small orders.

KANSAS CITY, Aug. 6.—Some very fine Missouri honey is now on the market, selling at 16@17c per pound for fancy white comb. Colorado and Utah shippers are offering new comb honey in carlots for first half of August shipment at 10c per pound for No. 1, and 9@9½c for No. 2, f.o.b. shipping-point. The market for extracted honey is as yet rather unsettled, asking prices ranging from 4¾@4½c, f.o.b. shipping-point. Buyers, however, seem to be in no hurry to make contracts. PEYCKE BROS.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANTIN THE BEE-KEEPING LINE.

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Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

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Italian Queens Warranted

Untested, 75 cts.; Tested, $1.00; Select Tested, $1.50. Half dozen or larger lots as may be agreed on. Address,

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RIVER FOREST, Oak Park Post-Office,
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Bee-Keeper's Guide

Or, Manual of the Apiary,
—BY—
PROF. A. J. COOK.

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A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book published to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipped, or his library complete, without THE BEE-KEEPERS' GUIDE.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

Given for TWO New Subscribers.

The following offer is made to PRESENT subscribers only, and no premium is also given to the two NEW subscribers—simply the Bee Journal for one year:

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Why does it sell so well? ✻✻

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Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Very fine pure-bred **BARRED PLYMOUTH ROCK** Chickens and Eggs for sale **at very low prices.**

Langstroth on the Honey-Bee—Revised,
The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

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—FOR—

Root's Red Clover Queens

ALEXANDRIA, IND., Aug. 1, 1901.

THE A. I. ROOT CO., Medina, Ohio.

Dear Friends:—The tested clover queen came in good condition and has filled seven frames with brood two weeks from the day she arrived, which is better than the combined efforts of three "yellow" queens purchased two years ago. I believe she is going to be the counterpart of the queen purchased of you in 1896, in which case money could not buy her.

Yours Fraternally,
EVAN E. EDWARDS.

PRICES OF RED CLOVER QUEENS:

Gleanings in Bee-Culture one year and Untested Queen $2.00
" " " " Tested Queen 4.00
" " " " Select Tested Queen. 6.00

If you want something good you can not do better than to order one of these queens. All orders are filled promptly. No extra postage on these to foreign countries.

THE A. I. ROOT CO., Medina, Ohio.
(U. S. A.)

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., SEPTEMBER 12, 1901.

FORTY-FIRST YEAR
No. 37.

WEEKLY

APIARY OF GEO. A. OHMERT, OF DUBUQUE CO., IOWA.—(See page 580.)

I. J. DOWLING, PHILA.

THE AMERICAN BEE JOURNAL.

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GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

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The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

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OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

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(AN UNTESTED ITALIAN)

For sending us One New Subscriber and 25 cents ($1.25 in all.)

We arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us this season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he uses is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

All queens guaranteed to arrive in good condition, and all will be clipped, unless otherwise ordered.

We would like each of our present readers to have one or more of these fine Queens. Simply send us the name and address of a new subscriber for the American Bee Journal for one year, and 25 cents extra, and the Queen will be mailed to you. Our queen-rearer is now caught up with orders, and expects to be able to mail them hereafter within 48 hours after we receive the order. He is in another State, and we will send him the Queen orders as fast as we get them at this office. He is prepared to rear and mail a large number.

The cash prices of these Queens are $1.00 each; 3 for $2.70; or 6 for $5.00.

Send all orders to

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Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife—When ordering, be sure to say just what name and address you wish put on the Knife.

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., SEPTEMBER 12, 1901. No. 37.

Editorial.

Glucose Not a Wholesome Sweet.—Dr. J. H. Kellogg, of the Good Health Publishing Company, and widely known as an authority on health foods, answers the question, "Is glucose a wholesome sweet?" in this way:

No. The glucose of commerce is manufactured from corn and other starchy substances by boiling them with sulphuric acid. This form of sugar is quite unlike the sugar formed by the digestive processes. There is no doubt that the large use of glucose, or grape-sugar, in the form of candy, syrups, adulterated honey, and various other meretricious products which have been put upon the market, is responsible for a large number of cases of diabetes—a disease which is rapidly increasing.

We are often asked concerning the advisibility of feeding glucose to bees for winter stores, or to keep them going during a dronth. Our answer is, invariably, Don't. A certain bee-keeper who numbers his colonies by the hundreds, experimented in this matter last fall, by trying to feed something like a ton of glucose to his bees. He won't do so any more. We have been trying to get him to write out the results of the experiment for publication, but so far have failed to get him at it. We imagine that he is trying to forget his mistake as soon as possible.

In our opinion, bee-keepers can't get and stay away too far from the whole glucose business.

Big Money in Bees.—In the American Bee-Keeper, F. G. Herman does his full share toward inducing a venture into bee-keeping. He began with one colony and now has 60. He says:

It has been my experience and that of bee-keepers generally that there are fewer risks and larger profits in comparison to the amount of capital invested in bee keeping than in any other business. Of course, emergencies do arise, but if they are met by ordinary foresight and common-sense, they are not likely to result disastrously.

Now, that's encouraging. One prefers a safe business, even if the profits are less; and there are fewer risks in bee-keeping "than in any other business." But it is cheering to know that in bee-keeping we are not confined to small profits, for there are larger profits upon the capital invested "than in any other business." If J. Pierpont Morgan had only had the foresight to invest his money in bees, he might to-day have been a rich man!

Without any desire whatever to harbor any doubts as to bee-keeping being the business of fewest risks and largest profits, one still has a secret longing for definite figures. There is comfort in looking them over and making estimates for the future. Fortunately Mr. Herman has given us just what we want. He says:

It is a conservative estimate of the bee-keepers generally, however, that each colony should bring in at least five dollars a year, and as each colony also throws off a swarm annually, it is easy to see how a little capital invested in bees will grow and multiply, besides yielding a very fair percent of profit.

Let us figure upon this basis, and see what Mr. Herman's income should be five years from now. As the number of colonies doubles each year, his present 60 colonies will in five years increase to 1920, and as each of these "should bring in at least five dollars a year, his income will be $9,600, and in 10 years from now it will be $307,200. Note that this is not the wild vision of a dreamer, but the estimate of *bee-keepers generally*. Note, too, that it is a *conservative* estimate. Each colony should bring *at least* five dollars. That's in the poorest years. There are good years when the income is ten, twenty, fifty times as much as in one of the poorest years. Let us continue to be conservative, and say the income will be only ten times as much. That will make the income in ten years from now a round three millions, with $72,000 left for loose change.

The only wonder is, that with all this there is such careful concealment of the names of all the millionaire bee-keepers.

Wild Statements About Bees are often made in the general press, and sometimes are copied unchallenged in bee-journals. The following paragraph occurs in the Pacific Bee Journal:

It is interesting to note in a northern California paper mention is made of a fruit-grower *hauling with a six-horse team a billion or more bees "to colonize them in his orchards to aid in fertilizing the pear-blossoms."*

If each colony contains 50,000 bees, a billion of bees would make 20,000 colonies? Estimating the weight of each colony at 50 pounds, the whole weight would be 500 tons. Unless the six-horse team would make more than one trip a day, it would take the biggest part of the year to do the hauling.

Extracting-Supers.—"Loyalstone," of whom the Australian Bee-Keepers' Review says he is a practical apiarist, all of whose writings are well worth reading, differs in some of his views from many if not most of the bee-keepers on this side the globe. He advises against the use of shallow frames in extracting-supers, saying, "Full-depth frames pay best, as they hold more honey and require less handling." He also objects to barring the queen out of extracting-supers, because if the queen is allowed full range the bees will work better and not be so likely to swarm.

The editor of the same journal doubts very much that it requires less brains to work for extracted than for comb honey.

Hive-Covers.—A good cover is a very important part of a hive. At the present time the most popular cover is probably the plain board cover. Editor Hutchinson thinks there is nothing better for the North, and finds it hard to believe it is not the best everywhere. To this the editor of the Rocky Mountain Bee Journal replies:

Editor Hutchinson says in the July Review, that for hive-covers, "in the northern part of the United States, there is nothing better than a plain board of white pine, thoroughly cleated and painted; and it is hard to believe that such a cover is not the best cover in any climate." That sort of a cover may be all right in the rain-belt, but if Mr. H. will come out here we will show him hundreds of such covers so full of checks that they afford little more protection than a sieve. We have experimented quite largely with covers for this climate, and have concluded that a plain, flat cover made of rough boards and covered with "Neponset Red Rope Roofing," is about as good as can be devised. This fabric, when painted white, is a very poor conductor of heat, and if a new coat of paint is added every spring, will remain water-proof indefinitely. Another merit it possesses is cheapness, costing only about 3½ cents per 10-frame cover.

However well satisfied Editor Hutchinson may be with the plain board cover, it is not alone in the trying climate of Colorado that murmurs are beginning to arise against it. The plain board cover has its advantages. It is not expensive. No quilts or sheets are needed with it, and it is light to handle. When new, it makes a close fit, leaving nothing to be desired. But it will not always stay new. With time it will curl up at the edges, allowing cracks large enough for cold to enter, and sometimes large enough for robbers to enter. Still worse, it will twist so that it will not lie flat. Making the cover of several pieces (although it takes it out of the list of plain covers), and beveling the edges, will help against the warping that makes the edges curl up, but it will not prevent twisting.

The bee-keeper who has thrown aside his bungling telescoping cover with its quilt is greatly pleased with the simpler plain cover, but he can not resist a yearning for the greater warmth of the discarded cover in cool weather, and when the sections melt down in his supers because the hot sun shines upon the plain board covers, he remembers that he

never had any trouble of that kind in the olden time.

Some have expressed a desire for, or have already used, a cover approaching the plain board cover in lightness and convenience without its objections. It is a cover made of two surfaces with an air-space between. An upper surface of $\frac{3}{8}$ inch stuff with the grain running lengthwise, and a lower surface of the same stuff with the grain running crosswise, have between them an air-space made by strips of $\frac{3}{8}$ inch stuff between the margins. In other words, a shallow box closed top and bottom, the inside of the box being $\frac{3}{8}$ inch deep. Of course it must be covered by tin or some cheaper material. The grain of the two surfaces running in opposite directions makes all warping and twisting impossible. The dead-air space is a good non-conductor, making the cover warm in cool or cold weather, and cool in hot weather. Such a cover may possibly be the coming cover to be what Editor Hutchinson believes the plain cover already is, "the best cover in any climate."

Deep-Tubed Honey-Plants.—Until lately it is probable that most bee-keepers—probably nearly all—have thought of red clover as the only honey-plant with tubes too deep for the reach of ordinary bee-tongues. Red clover is far from being the only one. Editor Root says this in Gleanings in Bee-Culture:

In addition to the great honey-plants, red clover, buffalo clover and horsemint, of Texas, that have long corolla-tubes, I can now add to the list the mountain sages of California, especially the white sage. This last has quite deep corolla-tubes; and I was told, while on the coast, that unless these corolla-tubes are very full the bees do not get much honey from this source. This is exactly the case with red clover. So it appears that long-tongued bees, if good in the North, will be in great demand all through the South, throughout Central and Southern California, as well as throughout all those States that grow red clover; and I have been surprised to find so much of it in the West. It appears, then, that *if* long-tongued bees are an advantage on red clover, they will be equally advantageous in the case of all the other honey-plants I have named.

Weekly Budget.

MR. CHARLES CLARKE is a bee-keeper. He is a bee-keeper of not many years' experience, but he is a good bee-keeper. He knows how to produce honey. He knows how to handle foul brood, too.

We made our second visit to Mr. Clarke's apiary Thursday afternoon, Aug. 22. He lives about 12 miles south of Chicago, in a splendid sweet clover district. He began last spring with about 30 colonies, has increased to nearly 60 colonies, besides taking off something like 4000 pounds of as fine comb honey as we ever saw, and will likely have 1000 pounds more.

Mr. Clarke had just completed a new honey-house, in which he had the honey all tiered up on shelves made of planks on edge and 2x2 inch stuff on top of them. It was a splendid arrangement for the very best curing possible before being put into cases for market. Everything was in as neat condition as possible. The apiary is at the rear of the dwelling house, in a veritable flower-garden, except that around the hives there was not a flower, weed, or blade of grass. All was clear, and each hive easy of access.

Mrs. York accompanied us on this little trip. We spent a very pleasant time with Mr. Clarke and his parents, with whom he lives. They are about 70 years of age. Mr. Chas. Clarke is the only "child" at home. Of course he is quite an old "child" himself. He has never taken unto himself that which would make him to be the "lesser half." We suppose his good mother could hardly spare him, as he is as handy about the house as most daughters would be.

Mr. John W. Clarke, his father, has a justice court in that part of the city where he lives. He has been "handing out" justice for nearly 30 years, and, we believe, has never had one of his decisions reversed. When he "decided" to "allow" "Charles" to go into the bee-business, it was a wise piece of "justice," as has been clearly proven by the good crops of honey the bees have gathered for him.

MORE ON THE FIRST 1000.—Still they come. We mean members of the National Bee-Keepers' Association. During the past week we have received the following names with $1.00 each:

H. K. BEECHAM,	A. L. JENKS,
RICHARD CHINN,	W. A. FRANK,
JOS. BEAUDRY,	O. P. HENDRIX,
WM. A. TAYLOR,	F. Z. DEXTER.

DR. C. C. MILLER, of McHenry Co., Ill., wrote us Aug. 27, as follows:

"After the terrible drouth which nearly or quite stopped the rearing of brood in July, it seems a great blessing to have a steady and fairly good fall flow which will leave the colonies with plenty of young bees for winter. I have also taken advantage of it to make some new colonies."

MR. C. H. LAKE, residing near Baltimore, Md., wrote us Aug. 27:

"Bees did poorly here this season, except in one instance. Honey-dew has ruined my crop of honey for three seasons past."

MR. GEO. A. OHMERT AND APIARY, of Dubuque Co., Iowa, are shown in our front-page illustration this week. When sending the photograph, Mr. Ohmert enclosed the following:

FRIEND YORK:—I started in the spring of 1901 with 18 fairly strong colonies, and 10 very weak ones. They built up through April and May to be quite strong; then white clover came, which was very abundant, and the bees began to swarm. There would be from three to five swarms out at the same time, and mixed together. We would have a great time dividing them, but we finally got them settled down to work.

We harvested about 900 pounds of white clover honey. The basswood flow lasted only about four days, and then our great drouth was on, and the honey-flow stopped.

We had 450 well-filled sections, leaving all the partly filled ones on, and the most of it was carried down during the drouth.

We have now 45 strong colonies, with plenty of honey, providing we get any kind of a fall flow, which I think we will, as the drouth was broken to-day (July 28) with a very heavy rain.

I was expecting to go to Buffalo this fall at the bees' expense, but we lost our raspberries and blackberries, so the bee honey-money will have to go towards making up that loss.

I send a picture of a part of our apiary. We could not get it all in. The little boy up towards the house is my main assistant. Mrs. Ohmert is sitting on a chair under a tree. Our youngest is standing by me. We have one more little girl in the picture, and the rest are neighbors' children.

In front you will see my home-made extractor. It works all right, and is away ahead of the small extractors I have seen around here. The cost, outside of the work, was $3.25. I can extract partly filled sections very rapidly. GEO. A. OHMERT.

MR. F. DANZENBAKER wrote us Aug. 29, that the severe illness of his wife makes it impossible for him to attend the Buffalo convention. We trust she may soon recover. It will doubtless be quite a trial to Mr. D. to be deprived of being at the convention, for he enjoys such gatherings.

MR. THOS. DOUGHERTY, of Bureau Co., Ill., called at our office last week. He has been keeping bees, off and on, for 40 years. He now has 25 colonies, and reports a good season. Mr. D. says he can get one or two cents per pound more for honey in the tall 4x5 sections than for honey in the square sections, in his local market.

HON. EUGENE SECOR is on the program of the 21st annual session of the Farmers' National Congress, to be held at Sioux Falls, S. Dak., Oct. 1 to 10, 1901. His subject is: "Some Problems Confronting the American Farmer." Surely, he has an extensive text, and one that permits of considerable latitude in its discussion.

THE APIARY OF LOUIS C. KOEHLER (see page 585) is situated in Manitowoc Co., Wis., and contains 185 colonies of bees, all in 10-frame Langstroth hives, except a few which he uses for experimental purposes. This apiary was started 20 years ago with five colonies of bees, and it has proved to be a success, although there have been set-backs and poor seasons. His father calls it the "big circus," and their farm he calls the "side-show."

The apiary is run entirely for extracted honey, which is all disposed of in the home market, being sold direct to the consumer. The white clover and the basswood honey are sold at 10 cents per pound, and the goldenrod at 9 cents. In the neighboring cities he has disposed of about three-fourths of a pound per capita on an average; he thinks this a pretty high average, and would like to hear of any one who has done any better.

Mr. Koehler has a honey-house 16x28 feet floor-space, and 12 feet high. The lower floor is divided into two rooms; one is the extracting-room, 16x16 feet, and the other is the honey storage-room, 12x16 feet. The second floor is used as a store-room for empty boxes, frames, etc., and as a paint-shop. He uses extractors of his father's own invention.

MR. F. WILCOX, of Juneau Co., Wis., dropped in to see us, Sept. 2, when on his way East to attend the Buffalo convention, and visit that part of the country. He reports the fall honey crop a failure in his region, but the yield from clover was good, especially alsike clover. There being several days of cool weather just at basswood bloom, the yield from that source was not very good.

Contributed Articles.

Transferring Worker-Comb for Drone-Comb.

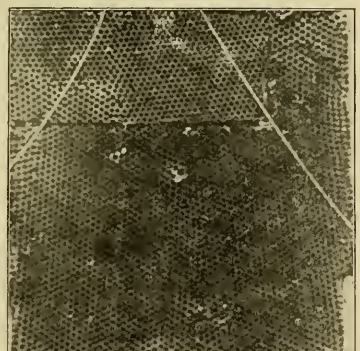
BY C. P. DADANT.

IN reply to a question on this subject, I would say that it is indispensable for the novice to learn how to transfer combs properly, for many reasons. First, he may have bees in old boxes, swarms hived in haste, in any kind of a receptacle—a dry goods box, a cracker box, a keg, or perhaps even a hollow tree, though the latter are getting scarce when compared to 35 years ago.

Then, there is the exchanging of drone-comb for worker-comb, as mentioned in the query. It is also sometimes necessary to straighten combs, or even to take them out entirely, if not built true in the center of the frames; for a movable-frame hive deserves its name *only* when each comb hangs true on a seperate frame. Before the invention of comb foundation, it was much more difficult to secure straight combs, and apiarists had recourse to all sorts of devices to compel the bees to follow the straight line. These devices were more or less successful, and for that reason the handling of the frames in the management of the apiary was more difficult than today.

It must be borne in mind that drone-comb may be removed with the best results when the combs are dry, and so the time for this work is early in the spring or during a dearth of honey.

When examining the frames, set aside all that have more drone-comb than worker-comb, and cut out every-



FASTENING TRANSFERRED WORKER-COMB.

thing. This will give you a number of pieces of good worker-comb to use. The frames that have been thus emptied can be supplied with either a strip or a full sheet of foundation, and placed in a hive in which a swarm is to be hived.

It does not matter how small a piece of worker-comb you may have, do not destroy it, unless it is absolutely too old and dirty or crooked. Small pieces may be used as well as large ones. I remember that my father, when I was yet a boy, used to transfer into our hives the combs of small boxes in which we had received imported queens from Italy. At that time the exporters put up the queens for shipment in small boxes with two frames of comb, each comb about 3x4½ inches. My father would make a very decent frame of comb with some 16 of those pieces arranged symmetrically in the frame, four in the length and four in the height of the frame. With a little labor from the bees, we had a very good comb with no drone-cells, except an occasional one at the seams, and it is certain that those combs could still be found in our hives, showing plainly the suture or seam made by the bees. I may say that at one time we imported as many as 300 queens annually from Italy.

To hold the combs in place, we use a light wire, say No. 16, of about the height of the frame, and with both ends bent at right angles, so the wire may be driven into the the wood at the top and bottom. It is well to punch a small hole previously, with an awl, for it helps in driving the wire into the wood. A number of these are put on one side of the frame, and the frame is laid on the table with the wires on the underside, then the piece of comb is fitted, and more wires nailed on top of it.

To fit a piece of worker-comb into a gap from which a drone-comb had been removed, lay your spare piece of worker-comb on the table, then put the frame down upon it with the empty space over the comb, you can thus mark the exact size and shape of the piece to be cut. This is marked with a sharp knife. If the cut is made exact and the combs are rather old, the fit will be so good that no support will be needed, and the bees will have them fastened together before there is any danger of the patch coming to pieces. In putting in small pieces shorter wires may be used. (See engraving).

There is no need of leaving the wires on after the combs have been repaired by the bees. If you leave them, it will spoil a row of cells all the way up and down along each wire. Usually a week is amply sufficient to have the combs patched and in good order, unless the colony is weak and there is no flow of honey.

If transferring is to be tried during a honey-flow, it is necessary to extract the honey out of the combs first. Under no circumstances would a good apiarist transfer combs during a hot spell of weather, especially if there was much honey, unless the combs to be handled were old and tough.

Never destroy good worker-combs, unless they are so exceedingly dirty that it is evident that the queen would not, or could not, lay eggs in them. That is usually the case with the lower edge of the combs of a very old hive. But if the combs are clean, age makes no difference; we have combs over 40 years old that I would not exchange for the same area of foundation.

Some writers will tell you that bees can build combs so fast, and so cheaply, that a swarm hived on empty frames will succeed about as well as one hived on combs already built; but you must class them with the farmers who tell you that land without manure can be kept as productive as land that is well manured. Such talk makes a diversion, it causes discussions, and breaks the monotony by causing the heads to warm up; but in the long run, all the fine-spun theories give way to plain facts. Hancock Co., Ill.

Hiving Two Swarms in One Hive.

BY C. DAVENPORT.

LAST year I wrote an article for the American Bee Journal, in which I stated the fact, and endeavored to explain why a good deal more surplus white honey could be obtained here if two swarms were hived together in one hive than could be if each were given a separate hive. In commenting on this in his inimitable way, Mr. Hasty compared it to Hamlet with Hamlet left out; and from what he further said I infer that he has had, or thinks there would be, trouble on account of the queens being balled. But in the hundreds of natural swarms I have hived in this way I do not remember a single instance where any trouble of this kind occurred, and no precaution whatever was ever taken to prevent it; that is, when both swarms issued at or about the same time. It would be of interest to me, if Mr. Hasty would say whether he ever had any trouble of this kind, or only thought there might be.

Of course, with artificial swarms, or when two natural swarms that issue on different days are hived in one hive, precautions have to be taken to prevent the bees from fighting, but this is not done with any special regard to prevent the queens being balled.

What leads me to say more on this subject is that soon after what I wrote last year was published, a friend of mine, who keeps bees in a small way, came to my place and wanted to know much more in regard to the matter than I had explained, and was much pleased to find out that natural swarms that issued a few days apart could be put together so they would work as well as they would when they both swarmed the same day; when this occurred he had no trouble in getting both swarms to work peacefully together in one hive, in which case he knew from his own

experience that nearly as much again white honey could be secured than if the forces were divided up.

It is a simple and easy matter to unite successfully swarms that come out within three or four days of each other. All that is necessary is to hive the swarm that issues last in a separate hive, and leave it in this till evening, then carry it to the hive that contains the swarm which it is desired to unite it with. The bees of this swarm, that issued first, are now smoked enough so they will thoroughly fill themselves with honey; or the plan will work if there is no honey in the hive for them to fill up on, if they are smoked enough to take the fight all out of them.

They are now all shaken, in any way most handy, down on the ground in front of their hive. Then the bees of the last swarm are dumped on top of them and all allowed to crawl into the hive together. The whole operation need not take over five minutes, and has always been a success with me. The bees of the last swarm need no smoke if they are united the same day they swarm, but the plan will also work just as well as if the second swarm is left until the second or third day; but in this case the bees of both swarms would need to be well smoked, and, of course, the hive that contained one swarm would, the first day, have to be set close beside the other, or the bees from the swarm moved would return to the location or place where their hive was first set, if there is a laying queen with each swarm, and as I have no particular preference as to which survives, no attention is paid to them. Of course, one is always killed, and this is almost invariably done the first night. Whether this murder is committed by the bees, or settled by royalty itself, I am not able to say, but my opinion is that the bees are not guilty, for I have often noticed these queens that would be found dead in front of the hives the next morning, and their wings and the hair or fuzz on their bodies was not gnawed or marred up, which, so far as I have observed, is usually the case when a queen is balled and worried to death by the bees. However this may be, I never knew one queen to fail to survive, though when one swarm has a virgin queen it is usually the virgin that survives and she may be lost on her wedding-trip. Such cases have occurred with me, but of late I always have a laying queen with these double swarms, for it may be a number of days before a virgin queen gets to laying, when all goes well, and a swarm with a laying queen does much better section work than one with a virgin, and a very few days in a good flow may mean a great deal with these allied forces.

But I would advise all who try this plan of hiving two swarms in one hive, not to have a laying queen only, but also to have her wings clipped, or else use an entrance-guard until fully satisfied that they have settled down to work and intend to stay; for these big double swarms are more liable to desert than a single swarm is. I lost an immense one last year; there were nearly three full swarms in it. Of course it was carelessness, and might have been prevented.

The hiving of two swarms together is very profitable with me. Others may not meet with the same success; we can not all obtain the same results with the same plan. For instance, in the American Bee Journal for May 24, 1900, is an extract from the Canadian Bee Journal in which Mr. Hall—one of Canada's largest and most succesfnl bee-keepers—is quoted as follows:

"We hived every swarm on half combs and half foundation, full sheets of foundation (four sheets to the pound), placing the old colonies alongside the new swarm; six or seven days after we shook all the young bees that had hatched in that time into or in front of the swarm, making it very strong, and took the brood away and hived a swarm on it. There were no eggs and little or no uncapped larvæ. Every swarm of bees we put upon those combs stayed and went right to work; we carried that out throughout the season. We started with 200 colonies of bees and we finished with 212, and we took 25,000 pounds of honey."

Previous to what I have quoted he said that this was comb honey. I was much impressed with this plan, and the results obtained from it, and last season I tried it in quite a large way, but the whole thing was practically a failure in my hands, compared with the results I can obtain in other ways, and it would no doubt be of interest to many if others who tried the plan last season would report results. I do not mean that the plan may not be all right—I only wish to insinuate in a mild way so as not to injure my own feelings too much, that I do not know enough to make the method a success. With me, swarms would in some cases refuse to stay on those combs containing, as they did, (and must when this plan is practiced) a great deal of sealed brood. If forced to stay by an entrance-guard or clipped queen they did not work with anything like the vim and energy that a swarm hived on starters would, and the results in section work was less than even the languid, indifferent way in which they in some instances worked would lead one to expect.

The method, in brief, by which I can obtain the best results in section work with swarms, either natural or artificial ones, if, as is the case with me, sections filled with white honey is the object sought, regardless of increase or stores in the brood-chamber, is to hive a large force in one hive with small starters in the brood-chamber, and use full sheets in the sections. The queen, if a good one, will occupy most of the comb below as fast as it is built, so the honey must of necessity be stored in the sections; and, what is of more importance, the bees under this system work with great energy from the start to the end of the flow.

There are some disadvantages about this plan, such as pollen in sections some seasons, and all seasons a good deal of drone-comb below. Southern Minnesota.

Bee-Keeping on the Island of Sicily.

BY F. GREINER.

THE peasants of Sicily, in particular those living along the Southern coast of the island, have followed bee-keeping as a business for a great many years. The movable comb and the divisable brood-chamber have been in use among them for centuries. Indeed, it would be difficult to trace up who the originator, or originators, of their hives and methods were.

The bee-knowledge these people possess has been transmitted to them by the Greeks and Romans, and, according to their ideas, can not be improved upon, putting Dzierzon, Langstroth, Hoffman and Heddon clear into the shade. From the following the reader can judge for himself. The Long-Idea-Hive is *the* hive in use: and long it is—only about five feet long, single story, of course. The size of frame is eight inches by eight inches in the clear. The frames themselves are made of a sort of bamboo (species, Ferula). This bamboo is selected of such thickness as corresponds with the thickness of the combs, or about 1⅜ inch. It is said that the bees build their combs into these frames with regularity without any other comb guide than the natural shape (rounding) of the material they are made of.

The peculiar feature of the hive is, that the frames form the hive. Nothing more simple could be thought of in the shape of a frame hive. Of course the frames must all be of exact size; they are fastened one to the other by small wooden pins. As many as 42 such frames are thus united, and all the interstices and joints are filled and covered with a mixture of clay and fresh droppings of cattle in order to exclude insects and rain. Only two small entrances at one end are provided for this 5-foot tunnel.

The method of managing these hives is as unique as are the hives themselves. It is a well known fact that the brood-nest in a hive is generally located near its entrance, the honey being stored in the further end. So, accordingly, if honey is wanted, a part of the frames from the end opposite the entrance are separated, and empty ones are substituted; if increase of bees is desired, a part of the frames at the front are separated, and thus the division is made.

The dead-air spaces in the frame material, as well as the covering above mentioned, seem to be sufficient protection to prevent the melting down of the combs, even in as hot a climate as Sicily. Ontario Co., N. Y.

P. S.—The above information was gained from an article written by V. Rauschenfels, in Imkerschule.

F. G.

Rearing Queens—Help for Those Who Fail.

BY G. M. DOOLITTLE.

A CORRESPONDENT writes as follows: "I have attempted, the past summer, to rear queens as you give in your book, but the bees refused to accept the prepared cups. As far as I know I have followed your directions. Where does the fault lie, with me or the bees?"

It seems a little strange that about one in 100 who try the plan of rearing queens as given in my book make a partial or entire failure of it. Of the other 99 who try, ninety report a perfect success, while the other nine are puzzled and perplexed over not being able to do better than to secure from three to five perfect queens out of every lot

of cell-cups tried. But while this is so, there is one thing worth mentioning, which is, that the longer those who have poor results try the plan, the better they succeed. From this I feel compelled to say that the fault, when a failure occurs, must be in the operator, for, so far as I am aware, bees behave very much the same along this line of cell-building, whether it be in York State, Maine, Florida, California, Canada, Europe, Australia, or Africa, as I have reports of perfect success and also of failures from all the places mentioned, and from many others also. If any man or woman makes a perfect success of the plan in Ohio, should not another make the same success in Ohio, providing he did *exactly* the same thing?

As 90 out of 100 make a success with the plan, it would look as if those who make a partial or entire failure in the matter, failed, in some respect, to work in all the minutia of the matter, in the same way the successful ones do.

As I mistrust that more fail in the matter of transferring the larvæ than anywhere else, I am constrained to give the fullest possible directions in this matter.

To those who have not succeeded as they desire, I would say, make a colony queenless and then wait three days till queen-cells are formed having plenty of royal jelly in them, and, after having removed the larvæ occupying these cells from the royal jelly, transfer larvæ from your select breeding queen to the royal jelly, left just as you removed the original larva from it, marking the cells worked upon by sticking an inch and a quarter wire nail about a half inch above every cell thus grafted, when you will return the combs to the bees. If this is a success you may know that there is no trouble on your part in the transferring process; but should it not prove successful you may rest assured that you killed the larvæ in some way in manipulating them, for with me every one is accepted under such circumstances.

If you succeed here, try the same way again, only set the frame having larvæ transferred to the cells built by the bees, in the upper story of a tiered-up colony; and, if I am not greatly mistaken, you will succeed here also, unless your trial is made in early spring or late in the fall. If you succeed in this way and can not with the artificial cell-cups, then you may know that there is some mistake in your manipulation of the royal jelly, or else the wax used in forming the cell-cups is offensive to the bees, or not fashioned as it should be in some way. To find out which of these is the cause of failure, instead of using royal jelly, transfer the larvæ to the cell-cups by the Willie Atchley plan of removing cocoons—larvæ and all to the cell-cups. If you now succeed you may know that the trouble was in manipulating the jelly. If you do not, then the cups are at fault.

If you have made no success with any of your trials till you transferred the larvæ by means of the cocoons, then you may know that you handled the larvæ in transferring in such a way that you killed the same, and here is where you are to look for the trouble. If you know that you failed in handling the larvæ, allow a few suggestions:

Make the point of the quill used in transferring very thin and three-thirty-seconds broad, rounding the extreme point. Having this done, give the point much curve by soaking it in water for some time and then pressing it, while soft, on the thumb-nail till it will fit the bottom of worker-cells nicely, when it should be laid away for 24 hours.

Now, before trying to transfer the first larva, dip the point in royal jelly till it is thoroughly moistened with the same, when you will note that, as you pass it under the larva, said larva is floated up on this royal jelly adhering to the curved point of the quill, so that it does not touch the quill at all, so can not be injured if you use any care in setting it down in the royal jelly in the cell-cups. If you are bothered about seeing, shave the piece of comb containing the larvæ down almost to the septum of the comb, or base of the cells, when no one should have any difficulty in seeing perfectly who can read the print of these pages.

But perhaps you tried the plan of queen-rearing too early in the spring, or during cool weather in September or October. Or perhaps you did not feed the colony when honey was not coming in from the fields, or did not have unsealed brood in the upper story; any or all of which would tend toward a failure.

If the weather is cool and no honey coming in from the fields, the bees should be fed till they are all alive and active, the same as they are when honey is coming in from the fields and at swarming-time; for, if we would rear good queens at any time of the year these conditions should be brought about as nearly as possible.

Of late years, for spring and fall rearing, I slip a sheet of perforated zinc down into the hive so as to confine the queen to one side of the same, when queens are reared in the other side, or the side not having the queen, the same as in upper stories. This can be done when there are not enough bees to fill properly two stories so as to rear queens to the best advantage. Onondaga Co., N. Y.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Transferring Bees from Box-Hives.

1. I have several colonies of bees in box-hives that I wish to transfer to movable-frame hives. They have each considerable honey in the brood-chamber, and I suppose brood also. Would it be as well, or better, to do it now (Aug. 5), or wait till next swarming season?

2. In cutting the combs to fit the movable frames, which end of the combs would be best to trim off and throw away, if any—the upper or lower edge? Supposing the combs are too deep for my frames for one, and not deep enough for two.

3. Would there be any danger of robbing, were I to undertake this job, on account of my hives being situated so close to each other? They are only about three or four feet apart in rows.

4. If I find any of them too weak to protect themselves from the moth, could I safely unite two or more weak ones at the time of transferring?

5. My hives are scattered over a lot of about 1-16 of an acre. How would be best to bring the hives together for uniting? and should I take one and carry it to another to be there united and transferred? Suppose No. 5 and No. 10 are two weak colonies, and I wish to unite and transfer them at the same time from their box-hives to movable-frame hives. Must I take No. 5 and carry it to No. 10 to be proceeded with?

6. Ordinarily, when two colonies are desired to be united, how would it do to move at night, one of them, to the side of the other, and wait a few days till the moved colonies become accustomed to the location, before uniting them?

7. Is it too late in the season for bees to build comb? If your answer should be no, I wish to ask why have my bees not rebuilt the combs I robbed them of a month ago?

8. Is there any limit to the time of comb-building?

9. If you advise transferring from the box-hives now, when must I remove the wire or strings used to hold the combs in place in the movable frames?

10. Will it make any difference whether the comb is placed in the movable frames in the same position it has in the box-hives? That is, which side or edge goes up or down?

11. How am I to overcome the trouble of the bees of each hive returning to the old stand? If I move one hive to another to be united, won't the bees of the hive moved be apt to return to the old stand before they get used to the new order of things?

I read all the standard bee-books and it seems I ought to be able to answer all these questions myself, but these little points are not covered in the works on these subjects. I have about 30 colonies in box-hives, and about the same in movable-frame hives, and wish to transfer them now if you so advise, or wait till next swarming-time. I greatly fear robbing may get started. I have handled bees for three years, and can do the work all right if given the advice asked for. MISSISSIPPI.

ANSWERS.—1. It will probably be better to wait till next season.

2. That depends on the combs. Very likely the lower part will be best to retain. Cut away the lower edge so it will fit perfectly true on the bottom-bar, and then cut away

enough of the upper part to make a snug fit in the frame. If, however, there is drone-comb at the lower part and none above, of course you will discard the lower part.

3. There is as much danger of robbing at three rods apart as three feet.

5. It will need great care, especially if done late this season. If the hives stand close together the danger will be less.

5. Don't try to unite and transfer at one operation two colonies that are a considerable distance apart. Get them located together first.

6. Your idea is all right, only moving at night will not be any different from moving in daytime. You can't fool the bees by that trick. But you may shut up at night the hive to be moved, keeping it shut up for 24 hours (look out you don't smother them), then move them to the new place at once, or any time within the 24 hours, and pound on the hive so as to stir them up thoroughly before opening.

7. It is never too late to build comb if it is needed, and the reason your bees build none is without doubt because they need none. Even if you take a comb right out of the middle of the brood-nest, the vacancy will be allowed to remain if they have so much room elsewhere that they are not desirous of more.

8. No, in rare cases where there is special reason for it, they may build comb in winter.

9. Almost any time at your own convenience. If you use strings the bees will remove it themselves, although it will be a help to them if you find it convenient to remove it. If you use fine wire, it will do no harm if you leave it for weeks, so you can remove it any time you happen to have the hive open. Either wire or strings may be removed just as soon as the bees have fastened the combs in the frames just a little. In the working season, this will be in a day or two. It is a good plan to look at the work in a day or two, for sometimes the combs will not be located centrally in the frames, and you can easily crowd into place before they are too firmly fastened in.

10. Yes, and no. The part of the comb that is used for brood-rearing will be about the same when turned upside down, but the deep cells in the upper part of the frame that may have been used for storing honey will be found to slant so much that the downward slant will be objectionable when reversed. It will also give the bees some trouble to cut down these deep cells to the proper depth for brood-rearing. So it will be well to try to keep the combs right side up, but if it makes much inconvenience to do so put them in any way that comes handy.

11. As already mentioned, if you shut up the bees for 24 hours it will greatly help to make them stay in the new place. If the bees are made queenless a day or two before moving, they will stay better in the new place. When the change is made, make the old spot look as unlike home as possible by taking away the stand, and perhaps making other changes. Or, you may do nearly the reverse of this. Leave on the old stand a hive with a frame of comb in it for any returning bees to cluster on, and in the evening return them to the new place. You will not need to repeat this many evenings.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25-cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

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Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

TRYING TO CORRECT POPULAR TERMINOLOGY.

No, Prof. Cook, it's entirely a waste of energy to try to make the general public quit saying "worms" and "bugs" for larvæ and beetles. To give up the effort is the only sensible thing that can be done—excepting of course in distinctly scientific papers. The people have won a great many such fights with specialists—the betting on their side 100 to 1. The people love short, smoothly-sounding words; and "larvæ" is "out of court" to begin with, by its un-English look and sound. Worse than all, many folks take a revengeful delight in using words that they know scientists "froth at the mouth" about, to pay them up for the jaw-crackers they have made us, and which we all have to mouth because there is no alternative word. Deep and penitential reform will have to begin with the Solons themselves before the people will seriously *think* of reforming. Page 470.

MOVING BEES TO BUCKWHEAT FIELDS.

F. Greiner has a decided "method" in getting bees to the buckwheat fields. One would be tempted to think it would run off the track at the same point, and be less satisfactory than the old "just move 'em" method; but his assurance that he finds it an improvement, and can recommend it to others, should go a good way. (Forced swarms carried on empty combs, reuniting later or not reuniting later according to circumstances, and according to one's desires in regard to increase.) Page 484.

HIGH VALUE OF QUEENS DEPENDS ON THE OWNER.

As to the $200 queen racket, I guess I won't say much—just stand by and laugh. O yes, there's one thing I will say. The real cash value of an extra queen depends most of all on who has her. Page 484.

THE BLACK BEE AND CAREFUL BREEDING.

Black bee never coddled, and fussed with, and "bred" as the Italian bee has been. You're right about that, Mr. Thaddeus Smith. If somebody would breed out their miserable habit of running down and dropping in little bunches from the comb, the black bee would be an admirable and desirable variety. 'Spects the real gains of bee-breeding are mostly in the future (if anywhere), and may be the black bee will get an even chance yet. Page 486.

BEES TOO LONG QUEENLESS.

So the circumstances may be such that bees left too long queenless before giving a cell get so excited and lunatic on the subject that they will all take their young queens and go when said queens do emerge. We will do well to make a note of it. I doubt somewhat whether they waited for wedding-flight, as Dr. Miller suggests. I may be quite wrong; and anyway that is not important. Page 488.

MULBERRY HONEY.

Fruit honey has a dreadful reputation for killing bees in winter; nevertheless a fruit 87 percent sugars, and affecting the human palate as a pure sweet, may deserve further trial. Would have to go it pretty strong in raising mulberries else the birds would harvest them for you. Say, try them in Southern California, where there is no wintering problem except to ward off starvation. Destroy the brush surrounding the bee-ranch and cover the hillside with mulberry bushes. Then when a famine year comes tell the bees to go harvest for themselves. Page 493.

SOME "HOT" POETRY REVIEWED.

If it were a youth publishing a poem for the first time I'd have mercy, but (having a little of the David and Goliath spirit) I'm going to go for Eugene Secor as he stands on page 514.

"And flowers to yield the dainty drop
Which heat and drouth have caused to dry up."

That is not doggerel; it's prose. The writer should have taken timely warning from the fate of Stenog, whose sin was smaller than this one. Usually false rhyme and lame metre and reckless changes of form go in company with emptiness

of thought and substance; but it is not so in this case. The thoughts are not all above criticism, but there is a good supply of them, some of them rather striking. The trouble seems to be that he was too mortally lazy (probably on account of some hot July days) to correct the metre of a few lines.

"Is praying in animal language for rain."

is a nice amphibrachtic line—but, as there isn't another one in the poem, it rather jars us when as rocking back and forth in iambics we unexpectedly come upon it. The time has entirely gone by when one could afford to be "slouchy" in the technical finish of his published poetry.—[We thought some one else would "straighten out" this matter, so we let the "poem" appear just as it was written. Hot weather is often responsible for over-heated brains—and some other things.—EDITOR].

COLONY AND PRIME SWARM "REPEATERS."

On page 493, C. H. Harlan contributes an extreme case of the repeating of both prime swarm and old colony. One year in the long ago (not very far from 35 years ago) we had the same sort of swarming here. It was a warm and showery summer; and the crop that year was not very large. I have no records going back so far as that, and so can not tell whether his bees made better time than ours or not.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

THE BIBLE.

To our friends—all the American Bee Journal home circles I count as my friends—we enjoy to talk of those we love, of what we love. A man of old who had visions of truth said, "Out of the abundance of the heart the mouth speaketh." What more fills our hearts than our real, true friends. We *must* talk of them. What will make the genuine American patriot light up with gladness and enthusiasm? The mere mention of such names as Washington and Lincoln. They were—ever will be—glorious friends of us all. How our eyes brighten, and how our faces kindle at thought or mention of them. How our tongues are loosened as we speak of the nobility and grandeur of their lives. They were friends whose blessed acts touch each and every one of us with blessings that ever grow with the ages. We ought, we must, we will, always sound forth their praises with most hearty accents and with fullest accord. It is good for us and the world that we are all ever ready to voice their incomparable virtues.

And so our friends in all the walks and relations of life must be in our words, as they are in our hearts. We must voice the praises of our country, our State, our neighborhood, the dear ones of the home circle. Why will the coming reunion of bee-keepers at Buffalo be such a glad occasion? Why will all be so enriched, and why will all we that stay at home lose so much? Only because we love our work, and we love to talk of its needs, its successes, its projects. To talk of these to those who are so fondly enlisted as are we, gives new impetus to our life and work.

I love my new home in Southern California. If we may judge from its rich gifts, it loves me. Ought I then to tire in singing its well-merited praises?

In my visit to the home circles last week. I referred to a friend who, like its Author, is "too wise to err; too good to be unkind." Who next to its Author is our very best friend. Who with its Author is ever coveting for us the best gifts, and ever urging us to such life and action as will as surely bring such gifts, as will the breathing of pure air bring life and vigor to our bodies? I hardly need say that I refer to "The book of books"—the blessed Bible—for there is no other such friend.

Few of the blessings of my childhood and early youth rank at all in my esteem with the fact that daily I heard my dear old father read from God's Word. To-day the very accents and the oft-repeated comments on various passages are among my most treasured memories. Had my very busy father neglected this opportunity, how much of richest value and blessing would have been omitted from my life. Thus early I learned to love the grand old volume. In all my college life it was my daily companion, and ever urged me to my best work. Later, as I came to California, it came with me as my dearest friend; and as I went to teach, away up in the mountains, in a rude mining town, where there was no church and no profession of Christianity, its aid stayed by me.

As I started a Sunday-school, and gathered the dear, eager children together, it was from choice my first and best, and most excellent, assistant. There were great temptations in those days. But there were two precious friends ever close, to sound in my ear the ringing word, "Don't." Need I say that these were the mother-love and the blessed Word? I am glad that later my own home repeated the good habit of my father's home; that my children, like his, daily heard the blessed word of truth. I rejoice that my own children, who now have their own homes, and their own special temptations, continue the habit. This, of course, takes them to the Sunday-school, and makes them its earnest supporter.

Oh, it is a good and a blessed thing for all our children to receive into their hearts and lives the blessed truths of this most blessed of books. I wish I might be so happy as to say the magic word that would open its pages, and speak its saving messages in every home circle of our land! What a power this would become, to check untruth, to stay dishonesty, to snatch away the victims of idleness and the horrid saloon; to wipe out the foulest blot of all on our history's pages—the sin of impurity and the blasting social evil.

How certain is it that the authors of this grand book spoke as they were moved by the Spirit of God, else we would not have had the oft-repeated invitations to what all experience proves to be the highest virtues—would not have been urged over and over, to a life that all experience shows will bring happiness; would not have been warned, almost on every page, against those evils and sins which surely imperil the soul. How black is untruth and dishonesty; how thick the Bible warnings to thrust them wholly from our lives and thoughts. How blasting and full of menace is intemperance and lust, and how over and over the dear old Book points the warning finger, and says, "*Touch not.*"

Oh! I would not only read it, but with the children I would learn so we could often repeat the Ten Commandments, the many grand passages from Isaiah, such Psalms as the 1st, 8th, 19th, 23d, 24th, 121st, etc. Such portions of the New Testament as the Beatitudes, yea, most of the Sermon on the Mount, the 12th Chapter of Romans, and 13th of 1st Corinthians. "For if these be in us and abound, they would make us that we could not be barren or unfruitful."

That grand chapter from Paul's great heart—the 13th of 1st Corinthians—is almost enough in itself to guide us in all life's perplexities. Learned aright, and we can not go astray. I like to repeat it often together about the morning table. It is easy, by use of such transcendent passages as these, to show our dear children the glories of this the very Word of God, that they will hunger to know more of its divine truth, which, if well and rightly learned, will make us all "wise unto salvation."

APIARY OF LOUIS KOEHLER.—(See page 580.)

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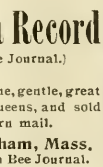

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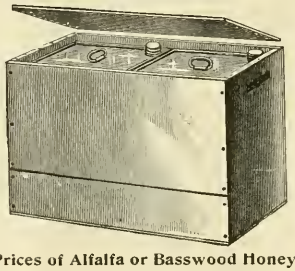

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McHenry Co., Ill.

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We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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GENERAL ITEMS

Bees Did Better this Year.

Our bees have done better this year than for two or three years past, after all the dry, hot weather. We commenced the spring with 11 colonies, and increased to 17. We have taken off over 500 pounds of comb honey, and have about 150 pounds on the hives yet to take off, which is pretty good for this locality. We can sell our honey at a pretty good price—comb honey at 20 cents per pound, and extracted at 10 cents; and customers furnish their pails.

Richard Chinn.

Dixon Co., Nebr., Aug. 29.

Working on Buckwheat.

Bees are working on buckwheat and queen-of-the-meadow at present. I have taken off nearly 40 pounds of honey per colony, so far.

Howard H. House.

Oneida Co., N. Y., Aug. 21.

Horsemint.

I send a flower that grows here on the sand hills. The bushes are just covered with bees from morning till night. I think it gives considerable honey, although a light amber.

Henry Roorda.

Cook Co., Ill., Aug. 19.

(The plant in question is the horsemint—Monarda punctata—and belongs to the large and important mint family, the members of which are usually aromatic and honey-producing. A goodly number of these plants blossom from July to November in sandy fields and dry banks, and furnish a rich supply of nectar for the bees during the drouth season.—C. L. Walton.]

Continued Drouth.

No rain yet. We never experienced such a drouth. Bees may get enough to winter on.

E. T. Flanagan.

St. Clair Co., Ill., Aug. 30.

Season in North Carolina—Dollar Queens.

This has been the wettest and driest season I ever saw. Up till July 1 it rained nearly all of the time. Then there was a drouth for nearly five weeks, so we have had a short honey season. The linden bloom commenced to open about July 4, and was very rich in nectar for about 15 or 20 days, then the sourwood commenced to yield nectar, and was never better, until the rain cut it off, two weeks ago. It has rained nearly every day since. Some bees are in very good condition. I never saw better prospects for a fall crop of honey, the fields and woodland being covered with honey-yielding weeds. I have taken only about 1400 pounds of fine honey up to date, mostly extracted. I will take more in September, if the weather is favorable.

I want to say a few words in regard to "dollar queens." In my opinion nothing else has done as much harm to the bee-business as this sale of one dollar queens. They are reared for the trade, not for business. A queen ought not only to be tested for purity, but for business in egg-laying, and that her bees are honey-gatherers, before she is offered to the public for business. If each queen had a good guaranty for egg-laying, her bees for honey-gathering and hardiness for wintering, it would improve the bee-business more than any other one thing that could be done, in my opinion. Let us hear from some of our big

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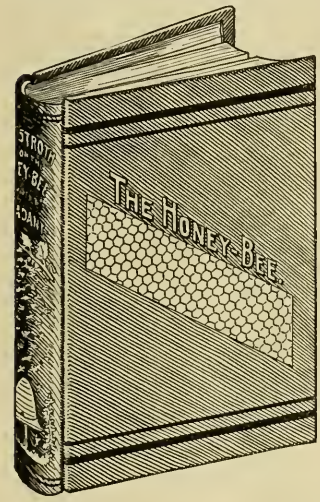

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guns in this respect. Don't understand me to mean that there are no good queens—there is about one good one in 50, according to my experience. I have bought more than that number, and only one was of any value worth mentioning. Bees in a state of nature don't have their dollar queens but one season, for they fall by the wayside the first winter, as only the fittest survive.

I have been in the bee-business for 33 years, and have learned some things, but there is much to learn yet. A. J. McBRIDE.
Watauga Co., N. C.

Too Dry for Honey-Production.

I think the American Bee Journal is splendid, and I don't think I could do without it. We have but little honey in north Texas this year, as it has been too dry. I have 20 colonies, and will have to feed some of them.
B. F. TINDLE.
Dallas Co., Tex., Aug. 28.

Mulberry Pulp for Bees.

Yes, as Dr. Miller says, page 550, "It would probably take a good deal to make old bee-keepers believe that bees could store good honey from the pulp of any fruit."

Then, again, some of them would be sufficiently industrious and investigating, when, lo! they may learn that pulp from white mulberries, containing, as they do, 87 percent sugar, would reveal mysteries in honey-gathering that would astound them!

We live in an age chock-full of surprises, and old bee-keepers may as well wake up to the fact before their children urge it upon their attention.

And as the experiment of planting a hundred cuttings of white mulberry would be hardly a dollar, would not such a beloved seer in bee-lore—our esteemed Dr. Miller—do a worthy act to employ his benign influence in encouraging his readers at least to attempt a venture that at its worst would leave bee-keepers in possession of delightful shade-trees, serviceable timber, and delicious fruit?

I know that the best impulses of his good heart strongly tend in this direction, but years of observation have compelled sober discretion, even to timidity and distrust, I fear.

But let courage and hope, yea, faith also, lead on to untried but reasonable measures, trusting, thereby, to develop resources hitherto unknown. It is to spirits possessing these qualities we owe most beneficent discoveries. DR. PEIRO.

Against Zinc Honey-Boards.

It is not very often that I give my views on the methods of manipulating bees, but as each bee-man plods along the dusty road to fortune, if he sees, or thinks he sees, something in the shape of a mote in his brother's eye, he forthwith proceeds to pluck it out, or at least feels he ought to do so.

I do not use honey-boards. The queen has the liberty of the hive. I do not use them because they are in the way of the workers. The field-bee comes in heavily loaded, tired

Catnip Seed Free!

We have a small quantity of Catnip Seed which we wish to offer our readers. Some consider catnip one of the greatest of honey-yielders. We will mail to one of our regular subscribers **one ounce** of the seed for sending us ONE NEW subscriber to the American Bee Journal for a year with $1.00; or will mail to any one an ounce of the seed and the American Bee Journal one year—both for $1.30; or will mail an ounce of the seed alone for 35 cents.

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Italian Queens Free
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For sending us **One New Subscriber** for one year, to the American Bee Journal, with $1.00, we will send, **by return mail,** a fine Untested Italian Queen free. This offer is made **only to our present regular subscribers.**

We will mail one of the above queens alone for 75 cents; or 3 for $2.10.

Please do not conflict the above offer with the one on another page which refers to Red Clover Queens. For sending us **one** new subscriber at $1.00, and 25 cts., we will mail you free an Untested Red Clover Italian Queen.

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out; she falls heavily at the entrance of the hive. Is it not hard enough to climb into the upper story without crawling through a narrow crack in a zinc board? If you do not think so, try crawling through a fence where one board is off, with a load of stove-wood for your wife, while she is crying to you to hurry up. It is a similar case.

Who recommends honey-boards? The successful bee-keeper? Not he. Those who have the largest yields in this locality per colony refuse to use them.

If the queen lays eggs in some of the combs in the upper story, do not extract from them, but as soon as they are ready to hatch use them for strengthening nuclei. Or, if you extract from them, turn the machine very gently. Strain your honey, and by all means settle and skim it. It is more important to let honey settle in a tank for a week, if not more, than everything else.

A writer in Gleanings in Bee-Culture makes the assertion that the workers of a colony do not kill the drones. He says they commit suicide. I am glad to hear this. Murder is a dreadful thing, even in the insect kingdom. As he is a bee-keeper of very high standing, I hope all the readers of the American Bee Journal will have more sympathy with the "lady" bees. At least try to think that instead of stinging their brothers to death they are hugging them, and trying to dissuade them from so rash an act.

The season has been good here in some localities, in places sheltered and away from the coast winds. But the amount of honey produced will not inflate the market in the East, if it does here. Most bee-men will hold their crop perhaps for a year.

T. ARCHIBALD.

Los Angeles Co., Calif., Aug. 25.

Results of the Season.

I started in last spring with 23 colonies, increased to 48, and have taken off 1300 pounds of comb honey.

I enjoy the American Bee Journal very much, and would not like to get along without it.

C. E. ROCKWELL.

Otero Co., Colo., Aug. 27.

POULTRY PAPER.

Send 25 cents for a year's subscription to our Journal, and we will send book of plans for poultry-houses free. Six months trial subscription to Journal, 10 cents.

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Standard Belgian Hare Book!

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23—37A2t

Where the Nectar Comes From.

Prof. B. Shimek says in Home and Flowers:

The nectar-glands are extremely variable in form, size, color, etc. In phlox it is the inner moist surface of the slight swelling at the very base of the tube of the corolla; in the columbine it is the surface of the innermost base of the spur on each of the five petals; in the larkspur, violet and pansy it is a part of the inner surface of the spur; in the barberry there are two orange-colored glands at the base of each of the inner petals, etc. In some cases the nectar is produced in such quantities that it can readily be tasted.

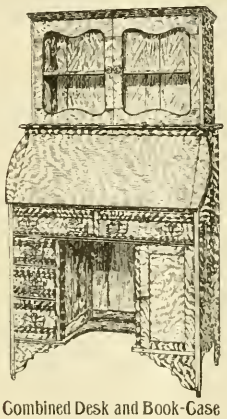
Nectar-glands, however, are not always conspicuous, indeed as a rule they are more or less concealed, and other means must be employed first to secure the attention of the insect. This is most commonly done by special odors and by color. Very often both color and odor attract insects, as in roses, lilac, etc., but the buckthorn, mignonette and other inconspicuous flowers secure recognition chiefly by their color.

Bee-Keeping as a Sole Business.

One of the questions likely to occur to every young bee-keeper who has made a substantial success with a few colonies of bees may be worded in some such terms as the following: "Can I make a good living at bee-keeping alone?" On this account comes very frequently the question as to what may be depended upon as the average yield or profit from a single colony of bees, or the question, "How many colonies of bees shall I need so that I may depend upon them alone for a living?"—questions which no man living can answer definitely.

C. Davenport gives the matter some discussion in the American Bee Journal, and settles the question as to whether one can make a living at bee-keeping alone by saying he *has* done it. But he says his is a good locality, and that he has no wife or family to support, and adds, "While I would not advise a young man to take up bee-keeping as a life work, in my opinion there is no question but that a

DESKS FOR GENTLEMEN AND LADIES!



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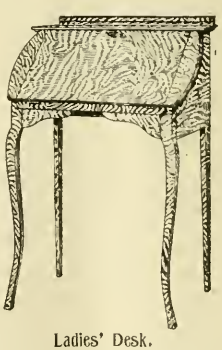

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[The above firm is entirely reliable.—EDITOR.]

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living can be made at it in a good locality if one understands the business."

While he may be entirely right in this, there are those who would not be in accord with his ideas when he says, "If I had my life to live over I would not be a bee-keeper; for I believe the work I have done to make what might be called a success in our pursuit would, in some others, have resulted in better success financially, and also in other ways." It is just possible that, if Mr. Davenport could live his present life through, and then live another life without bees, in some business at which he could make more money, he might give his judgment as follows: "I must say that, after having lived the two lives so that I am now able to judge between them, I prefer the bee-keeper's life, which, although giving less opportunity for amassing wealth, gives one the opportunity for a greater amount of happiness.

Taking the expressions of some of the veterans who have been in the business many years, we might suppose one of them near the close of life to express himself as follows:

"Judged from the standpoint of those who measure success in life only by the amount of wealth accumulated, my life has not been a great success. Folks compare me with my brother John, and have a feeling for me akin to pity. John and I started life with equal chances; and, if I may be allowed to judge, John had no more business ability than I. He went into merchandizing, and devoted all his energies to making money. He said he did not care for money, only as it would allow him to have something he could enjoy; and when he got enough he would give up the drudgery and enjoy life. But somebow he kept on piling up more and more, turning his business talents in this direction and that; and although to day he could buy and sell me many times over, I don't believe he enjoys life any better than I. I have all I can eat, and that's all he has in the way of food. He may buy dainties that I can not afford, but his dyspeptic stomach will punish him for eating them; and, having spent so much of my time outdoors all these years, I have a hearty appetite that makes me relish plain and wholesome food more than he relishes dainties. The great difference, however, between John's life and mine is that, in the past years, his has been one of continual drudgery, and

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QUIRIN—THE QUEEN-BREEDER — has now on hand, ready to mail, **500** young, long-tongued Red Clover Queens, Golden or Leather Colored.

We have one of Root's best breeders from his $ 00, long-tongued, Red Clover Queen, and a Golden Breeder which we are told is worth $100, if there is a queen in the U. S. worth that sum.

J. L. Gandy, of Humboldt, Nebr., tells us that the colony having one of our queens, stored over 400 pounds (mostly comb) honey in a single season. A. I. Root's folks say that our queens are extra fine, while the editor of the American Bee Journal tells us that he has good reports from our stock from time to time.

We have years of experience in mailing and rearing Queens. Queens positively by return mail from now on. Prices for balance of season as follows:

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NO ODOR! NO SMOKE! NO ASHES!
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The editor of the American Bee Journal is using the "Barler Ideal" Oil Heater, and it is all right in every way. We liked it so well that we wanted our readers to have it too, so we have recently arranged with its manufacturers to fill our orders. The picture shown herewith is the one we recommend for general use. It is a perfect gem of a stove for heating dining-rooms, bed-rooms, and bath-rooms. It hinges back in a substantial way, and is thoroly well made thruout. The urn removes for heating water. The brass fount, or well, has a bail, and holds nearly one gallon of kerosene oil. It is just as safe as an ordinary lamp. You wouldn't be without it for twice its cost, after once having one of these stoves. Most oil-stoves emit an offensive odor, but this one doesn't. Its hight is 2½ feet, and weighs 20 pounds, or 30 pounds crated ready for shipment, either by freight or express.

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If you want something that is really serviceable, reliable, and thoroly comfortable, you should get this "Barler Ideal" Oil Stove, as it can easily be carried by any woman from one room to another, and thus have all the heat you want right where you want it.

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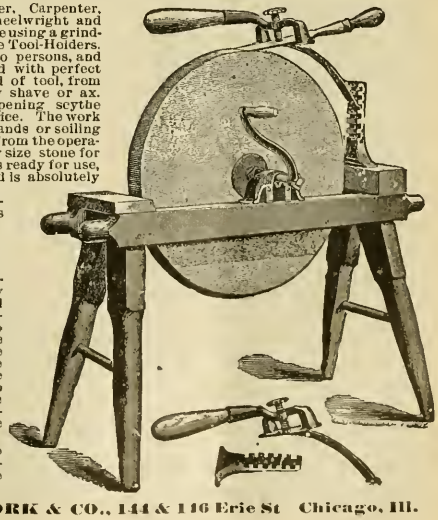
No farm is well-equipped unless it has a Tool-Holder. Pays for itself in a short time.



How to Use the Holder.

DIRECTIONS.—The Tool is fastened securely in the Holder by a set-screw and can be ground to any desired bevel by inserting the arm of the Holder into a higher or lower notch of the standard. While turning the crank with the right hand, the left rests on and steadies the Holder; the Tool is moved to the right or left across the stone, or examined while grinding, as readily and in the same way as if held in the hands.

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Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

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Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yield of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

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mine has been one mainly of enjoyment. I've had my good times as I went along. Working at the bees has been just as good sport as going hunting or fishing, and it's a sport of which one never wearies. So you see my playtime has not been something to look forward to in the future, but something I've had all along. No, with all his wealth I wouldn't swap places with John."

Some one may say, "That's very pretty talk; but my experience has been that there's hard work in bee-keeping, and lots of it." Sure. But isn't there hard work in nearly all kinds of play? Do you work any harder at bee-keeping than you do when you hunt or fish all day? Do you begin to work as hard as the man who plays ball till he is as red as a beet in the face, and is so sore and lame at night that he can not be still?—Gleanings in Bee-Culture.

Doubling Up Storing Forces.

Under the head of "How to get the bees of two queens to work in one super," Jas. Hamilton gives in the Bee-Keepers' Review his plan of precedure. It contemplates uniting in such a way as to have only half of the colonies working in supers. While it might be very much better to have all colonies strong, there may be, and often are, cases in which all colonies are not sufficiently strong to make good work in supers, when some sort of uniting is desirable. In such cases Mr. Hamilton's plan is well worth considering. He says:

If you expect a honey-flow by the first of June, say, examine all your colonies and mark those that are strongest. They have the best queens. Do this some time previous. These colonies are the ones upon which you expect to put supers. Remove all combs not occupied with brood. Now go to your second weakest colonies, draw well-brooded combs therefrom, putting one in place of each empty comb taken from your best colonies, replace these empty combs where you drew the brood from. If your hive is an 8-frame, you now have 8 frames of brood in all of the strongest colonies. The bees in these hives will soon be so strong that you may put an upper story, which is simply to prevent over-crowding and to hold other frames of brood. This time I would draw two frames from each of the third weakest colonies, having two brood-frames in each hive having an upper story. I would also put one comb of honey beside these two brood-frames. This is to prevent the bees from starving, in case there might be a few cold or wet days.

Now each colony intended for comb honey has, all told, 10 frames of brood. The brood is rapidly hatching out, and by the time clover or basswood is ready the colony will be ready.

This is uniting in the brood form, and it is the form in which the work can be safely and easily performed. This force of brood will soon be young field-bees and will be good for a three weeks' honey-flow, or about as long as clover will yield.

But there is another plan, and I only recommend it when you have been negligent in the performanee of the former and the season of honey is nigh at hand:

Kill off the queens that have but the equiv-

Rocky Mountain Bee-Plant Seed!

(Cleome integrifolia.)

...FREE AS A PREMIUM...

The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows fromtwo to three feet in hight and bears large, clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us ONE NEW subscriber to the American Bee Journal, with $1.00; or ¾ pound by mail for 40 cents.

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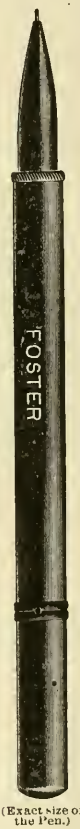

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alent of five frames of brood and bees. Four or five days later put on an upper story on each alternative hive of the class of colonies from which you removed a queen, alternating the frames of brood and bees, both in the lower and upper story, and there will be no fighting. If your hives are standing close in pairs, nearly all the bees will remain where you put them. At this time I would introduce a young laying queen to each of these double colonies. Let them thus remain until most of the brood is hatched. When the time for supers arrives contract the brood-chamber to five combs, give each colony a case of drawn comb or foundation, and watch the honey-flow. If it is slow, one super is enough. My faith in tiering-up is about torn up.

But to return to the second weaker colonies from which we drew our batch of brood. This class of colonies has each a second-class queen, a little patch of brood, and some field-bees. What shall we do with them? Let them alone until the time you expect your best colonies to swarm. At this time I would draw frames of brood from each colony likely to swarm, contract the brood-chamber to five frames, and use the frames of brood and weak colonies in building up colonies. Such colonies will do good work in closing up the season.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Aug. 22.—White comb brings 15c per pound for the choice grades, with other lines not grading No. 1 selling at 13@14c; light amber, 12@13c; dark, 10@11c. Extracted, fair demand at 5½@6c for white, and 5½@5¾c for amber; dark grades, 5c. Beeswax steady at 30c for choice yellow. R. A. BURNETT & Co.

CINCINNATI, Aug. 10.—The honey market is rather dull on account of the warm weather. Extracted sells only to manufactnrers from 5@6c; better grades alfalfa water-white from 6@7c; white clover from 8@9c. Fancy white comb honey sells from 13½@15½c.

C. H. W. WEBER.

BOSTON, Aug. 19.—Our market to-day is about 16@17c for fancy; A No. 1, 15¼@16c; No. 1, 14@15c. Extracted, full supply, light demand.

Several lots of new Vermont honey in cartons have thus far been received, meeting a ready sale at 17c, although of course in a small way. The trade generally seems disposed to hold off, looking for larger receipts and lower prices. This is somewhat due, of course, to the fact that the demand is still light owing to the warm weather. Cooler weather will make a better demand and naturally make a better feeling.

BLAKE, SCOTT & LEE.

ALBANY, N. Y., Aug. 20.—We quote: Fancy white comb, 16@17c; No. 1, 15@16c; No. 2, 13@14c: mixed, 12@13c. Extracted, light, 7@7½c; mixed, 6½@7c. H. R. WRIGHT.

OMAHA, Aug. 8.—New comb honey is arriving by express in small quantities from Iowa and Colorado, and selling at $3 50 per case in a retail way. California extracted honey is being offered carlnts at 4½@4¾c per pound, f.o.b. California shipping-points, but we have not heard of any sales having been made thus far. The production of extracted honey seems to be quite large this year in Colorado, Utah and California. PEYCKE BROS.

NEW YORE, Aug. 7.—There is some demand for new crop of comb honey, and receipts are quite numerous for this time of the year. They have been principally from the South, but we are now beginning to receive shipments from New York State and near-by. We quote: Fancy white, 15c; No. 1 white, 13@14c; amber, 11@12c. No new buckwheat is on the market as yet, and we do not expect any before next month.

Extracted is decidedly dull. Plenty offerings, with only a limited demand, and quotations are rather nominal. We are selling at from 5@6½c, according to quality, and Southern in barrels at from 55@65c per gallon. Beeswax dull and declining; for the present we quote 27@28c.

HILDRETH & SEGELKEN.

DES MOINES, Aug. 7.—There is very little doing here in new crop of honey. Some small lots of near-by produced comb honey are on the market and selling in a retail way at $3.50 to $3.75 per case. We do not look for much trade in this line before Sept. 1. Our market does not consume a great deal of extracted honey.

PEYCKE BROS. & CHANEY.

DETROIT, Aug. 12.—Fancy white comb honey, 14@15c: No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.

M. H. HUNT & SON.

BUFFALO, Aug. 10.—Quite a good demand for fancy honey, 16@17c, and lower grades, 12@14c; old neglected. Advise moderate shipments only of new as yet. BATTERSON & Co.

SAN FRANCISCO, Aug. 14.—White comb, 11@12½ cents; amber, 8@10c; dark, 6@7½c. Extracted, white, 5½@—; light amber, 4½@5c; amber, 4@4½c. Beeswax. 26@28c.

Market continues quiet, with apiarists, as a rule, unwilling to unload at prices generally named by wholesale operators. Quotations represent as nearly as possible the values ruling at this date for round lots, although free sales could not probably be effected at full figures, while, on the other hand, higher prices than quoted are being realized in the filling of some small orders.

KANSAS CITY, Aug. 6.—Some very fine Missouri honey is now on the market, selling at 16@17c per pound for fancy white comb. Colorado and Utah shippers are offering new comb honey in carlots for first half of August shipment at 10c per pound for No. 1, and 9@9½c for No. 2, f.o.b. shipping-point. The market for extracted honey is as yet rather unsettled, asking prices ranging from 4¾@4½c, f.o.b. shipping-point. Buyers, however, seem to be in no hurry to make contracts. PEYCKE BROS.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., SEPTEMBER 19, 1901.

FORTY-FIRST YEAR
No. 38.

WEEKLY

ROOF-APIARY OF AUGUST ASMUSSEN.—(See page 596.)

I. J. DOWLING, PHILA.

THE AMERICAN BEE JOURNAL.

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GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

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To promote and protect the interests of its members.

To prevent the adulteration of honey.

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., SEPTEMBER 19, 1901. No. 38.

Editorial.

Discouragements and Encouragements in Queen-Rearing.—Never before was so much said and thought as now about improvement of stock, and as a consequence about queen-rearing. In probably the great majority of cases little or nothing is done to control in any way the actions of the bees in the rearing of queens, beyond the occasional introduction of a queen from elsewhere, with the hope of improvement.

Even those who are willing to do all in their power to make improvement are handicapped as in no other line of breeding, by the lack of control of the sire in mating. The man who attempts to breed a good horse or cow can do just as much toward controlling the sire as the dam, while the bee-keeper may take all the pains possible to select the dam and then have her meet a mate of the poorest sort from some colony two miles away. To be sure, he may succeed to a degree by having his young queens fly out to mate at a time of day when drones in general are not flying, or he may go to the expense of having a Davitle cage, but even then the control is only partial, for instead of a single drone being selected, a hundred or more will be on the scene of action.

But with all the discouragements there is much to encourage, and a man with the smallest allowance of ability and experience may do something, if not to improve his stock, at least to keep it from becoming worse. For, left entirely to itself, the greatest amount of increase coming from colonies most given to swarming and least given to storing, the chances are more in favor of deterioration than improvement. By purchasing a single queen of Italian blood, the owner of black bees may, inside of two months, have all his workers changed at least to half-bloods. No such rapid change can be made in any other kind of stock, so, in spite of discouragements, in this one respect the bee-keeper has the advantage over breeders of other stock.

While the discouraging fact is emphasized constantly that inferior drones within two miles or more may make trouble, the converse of this should not be forgotten. For if the inferior drones of a neighbor lower one's chances for improvement, it is also true that one's own superior drones will steadily be raising the grade of the neighbor's bees, so that as the years go by the damage from outside drones will be less and less.

Even if no attention be given to the drones, it can not be denied that a queen of superior stock mating with an inferior drone will give better results than would be attained if queen and drone were both of inferior stock.

Locality or Kind of Bees?—Those who write for beginners in bee-culture need not expect that their writings will be scanned only by those without experience. Witness some of the following questions:

Some of the teachings of J. D. Gehring, when considered in the light of my own experience, are somewhat puzzling. An instance occurs on page 550. The first item given in the line of winter preparation is to look in the hives about the middle of October to ascertain the fact that the colony has a queen. Rap sharply a few times on the outside of the hive, wait five minutes for the bees to fill themselves, then take off cover, give a little smoke, and then proceed with the search for the queen. Now in my experience I should expect a rather long search after treating the bees in that way. In the first place, about the first thing I should do after rapping sharply a few times on the outside of the hive would be to take to my heels if I didn't want a lot of cross bees about my ears. Perhaps, however, Mr. Gehring smokes before he runs. He doesn't say. In any case, if I should rap on the hive enough to make the bees fill themselves, and then should give a little smoke, my bees would be ready to run like a flock of sheep, making the chance for finding a queen very poor. Now I want to ask, Is there a difference in bees that makes Mr. Gehring's bees hold still when mine would be sure to run?

Also, what is the object of finding the queen, seeing that it makes no difference in the treatment? for he doesn't say a word about doing anything different with a colony if the queen should not be found.

OLD EASTERNER.

There is a good deal of difference in bees in their deportment under the same kind of treatment. An amount of smoke or jarring that would have very little effect upon some bees would make others run so that the task of finding a queen would be difficult, if not impossible. The object of ascertaining the presence of a queen is no doubt so that a queen may be furnished where needed, or the queenless colony united with another. It is doubtful, however, that the practice of bee-keepers in general would agree with that of Mr. Gehring. When looking for a queen it is of first importance that the bees should be smoked or disturbed in any way as little as possible. Once the bees get to running it is better to give up the search till another time. A single puff at the entrance, before opening the hive, and a very little smoke over the tops of the frames after the cover is removed, will be sufficient to keep the bees from flying out at the operator, and that is all that is required. Indeed, with some bees no smoke at all is necessary, and all jarring of the hive should be carefully avoided.

Probably few bee-keepers make a practice of looking through the hives for queens in the fall. If there is young brood in the hive the presence of the queen is known without seeing her. If no brood is present, which is likely to be the case, the queen will be small and very hard to find. Not finding her is by no means positive proof that there is no queen; so if no queen is found, and another queen is given, there is a fair chance that a queen is thereby wasted. On the whole, it is not likely that many would consider it advisable to make the search.

Getting Bees Off the Combs is rated by Editor Hutchinson as the most disagreeable part of producing extracted honey. He gives the practice of Mr. Miller, a Canadian, as follows:

Give the bees a good smoking, which drives down most of them, then get the super down near the entrance, when the rest of the bees will leave the super for the hive. When robbers are troublesome, use the escape. Mr. Hutchinson says he uses the same plan in removing surplus comb honey.

Dr. C. C. Miller uses somewhat the same plan. He writes:

"When a super of sections is to be removed from the hive, the plan of procedure depends upon whether robbers trouble or not. During the height of the season, and until the flow wanes, there is usually no trouble from robbers, and a super of sections may often be left exposed for an hour or more without any danger. Still, there is always a possible danger, and a close watch must be kept. After removing the cover I blow smoke lively upon, or rather down into, all parts of the super, taking half a minute or more, the time depending somewhat upon the amount of smoke the smoker is yielding at the time, and to an extent upon the bees themselves. When there has been anything like a stampede for the lower story, so that all the youngest bees have gone down, there is no need to smoke longer, and there is some danger of affecting the flavor of the honey by too much smoke. Then the super is taken off, and after the cover is replaced the super is set endwise upon it, well toward the front, with one edge of the super projecting over a little. After a time the bees will start a line of march from this projecting part down to the entrance of the hive, and not many bees will be left. It is possible that there would be an advantage in setting the super close down against the entrance, but when it is on the top of the hive it is easy to keep watch of it from any part of the apiary, so as to see the first attempt at robbing, whereas a land-office business might be going on unseen if a super stood on the ground.

"After the bees are mostly out of the supers, they are stacked up in a pile until the pile contains perhaps ten supers, a robber-cloth escape being used to cover the pile from the time it is started. This escape is simply a robber-cloth having in its center a very

large cone escape of wire-cloth. It ought hardly to be called a cone escape, for instead of being a cone it is a pyramid, each side of the pyramid being an equilateral triangle, and each side of the triangle measuring 10 or 11 inches. This allows the light to shine freely on the top super, and the remaining bees make their way out with no danger of robbers entering. If robbers are troublesome, then the supers are taken immediately from the hive (a little more smoke being used than usual), and put directly on the pile under the escape. The robbers may be in thick clusters at the base of the escape, but they do not seem to know enough to enter at the top.

"Some one may ask why I do not use escapes on the hive, to which I reply that, like some others, I haven't time to wait for them."

Rather Serious Accusations against the editor of the American Bee Journal are contained in the following paragraph from the Rocky Mountain Bee Journal:

Under the head of "Contributed Articles" the American Bee Journal recently published Mr. W. L. Porter's paper on "Co-operation," which appeared originally in the June issue of the Rocky Mountain Bee Journal. The article was not credited to the R. M. B. J., and appeared as original correspondence to the A. B. J. We have no objection to the republication of articles from the R. M. B. J., but we do insist most strenuously that proper credit be given. So far as we are aware the A. B. J. has never mentioned the existence of the R. M. B. J., and it would seem that to carry his policy of unfriendliness toward Western bee-journals to the extreme limit, Editor York deems it legitimate to take from their columns free-handed and without rendering credit. Whatever may be the motive, this is a species of piracy roundly condemned by all reputable journalists, and we are sorry to see it indulged by a member of the apicultural press. All we ask is, treat us fairly, Mr. York, or hands off, please.

We haven't read anything in a long time that has amused us so much as has the above. And yet we do truly feel sorry for our new brother editor. He didn't notice that right at the head of the article in question we had this credit:

"Read at the Longmont meeting of the Colorado State Bee-Keepers' Association, April 30, 1901, by W. L. Porter."

You see, we did not publish it "as original correspondence in the A. B. J.," as he charges. No other credit than what we gave was needed. Of course, our good brother editor didn't know that anything read at a convention is public property—even the report of discussions is, also, unless the journal publishing it has paid for such report, as we have done for that of the National Bee-Keepers' Association.

So it is clearly seen that Mr. Porter's article wasn't even written originally for the Rocky Mountain Bee Journal, but for the Colorado State convention. If it had been written expressly for that paper, why was it necessary to have at its head these words when appearing there also?

"A paper read at the Longmont meeting of the Colorado State Bee-Keepers' Ass'n., Apr. 30, 1901:

Again, our worthy fellow editor says this:

"So far as we are aware, the A. B. J. has never mentioned the existence of the R. M. B. J., etc."

Of course, again he wasn't "aware," for he evidently did not know of the following notice, which we printed on page 212 of this journal for April 4, 1901:

"The Rocky Mountain Bee Journal is the name of the latest claimant to the patronage of the bee-keeping public. It purports to be published 'For Colorado and the Great Inter-Mountain Region.' It is to be issued monthly, is neatly printed, and presents a good general appearance."

Our first inclination, upon reading the accusations made by our fellow editor, was to ignore them entirely, as they deserved to be treated. And yet, after second thought, we felt it was an opportunity for us to enlighten him in a kindly manner, which we felt sure he would appreciate, for even editor's have much to learn, especially young ones.

Now, after having said that much, we will go further, and say that we wish the Rocky Mountain Bee Journal all kinds of success in the very difficult field in which it has chosen to enter.

But we would also like to suggest, that, sometimes it is better to write *privately* to a supposedly offending brother, and see if with his help a rather ridiculous side-show of one's self can not be avoided.

Weekly Budget.

W. Z. HUTCHINSON.

THE EXECUTIVE COMMITTEE of the National Bee-Keepers' Association for 1902, elected at Buffalo last week, are as follows:

President—W. Z. Hutchinson, of Michigan.
Vice-President—O. L. Hershiser, of New York.
Secretary—Dr. A. B. Mason, of Ohio.

THE ROOF-APIARY of August Asmussen, of Pottawattamie Co., Iowa, helps out our first page this week. Here is what he wrote us about himself and his bees:

EDITOR AMERICAN BEE JOURNAL:—Ten years ago I started with one colony of bees, and, finding it both pleasant and profitable, I have kept bees ever since.

I am a harness-maker by trade, and since last spring have lived on the main street next to my shop. In order to care for the bees properly I decided to keep them on the roof, and I was forced to move them at night, as some of the citizens strongly objected to bee-keeping in town.

If it were not for the swarming habit of the bee, no one would have known the bees were on the roof. I have prevented the bees from swarming, to a great extent, by giving them plenty of room, and controlling them by clipping the queens' wings.

The bees did well during the month of June, but on account of lack of rain during July they decreased instead of increased, judging by the hive on the scales

AUGUST ASMUSSEN.

MR. WM. DUNCAN, of Dupage Co., Ill., began in the spring with 10 colonies, now has 15, and will likely harvest 100 pounds of comb honey per colony, spring count, in 4x5 sections. Mr. Duncan combines bee-keeping with the office of Justice of the Peace, and it seems to be a good arrangement.

We had the pleasure of visiting Mr. Duncan and his apiary, Aug. 29. He lives 17 miles southwest of Chicago, in a fairly good sweet clover district, so his honey is mainly from that source. He will have no difficulty in selling all he can take off the hives at $3.50 per case of 20 sections. He now uses the Danzenbaker hive, but expects hereafter to use the regular Langstroth 10-frame brood-chamber with Danzenbaker super. Some other bee-keepers find such a combination all right for the production of comb honey. One great advantage is that in buying or selling bees, there is no difficulty about the brood-frames, as the Langstroth size is practically standard. And, then, some fear the Danzenbaker frame is too shallow for safe wintering of bees in a cold climate.

Mr. Duncan has a very neat apiary. But, then, if you knew the man you would expect that. He lives in a neat and pretty town. It is a peaceable town, too. He has not had a case on his court docket for months. Very likely one cause of this happy condition of affairs is "no saloon." The people in that beautiful Chicago suburb have better sense than to tolerate the presence of that pest-hole.

Mr. Duncan took us to see several other near-by apiaries, in one of which (the elder Mr. Schramm's) was a colony in a straw-skep—the first occupied skep that we had ever seen. Mr. S. said he got nothing but swarms from it, but this year he has not had even that from it, though it was a powerful colony. It is a novel and interesting sight.

About 3 p.m. Mr. D. ordered up a good horse and buggy, and took Mrs. Duncan along, to visit Mr. G. W. Stephenson's apiary, about three miles away. We found Mr. S. at home with his nearly 80 colonies of bees. He also expects to harvest an average of 100 pounds of comb honey per colony, spring count, which was 60 colonies. Mr. Stephenson not only knows how to produce a good crop of honey every year, but all the sections are always uniformly filled. Perhaps one reason why he secures such good results is because he has strong colonies in 10-frame Langstroth hives, and only 24 bee-way sections in the regular 28-section T-super, leaving a large open space at each side to be filled with bees. In this way the outside rows of sections are sometimes sealed over first, and all are as evenly filled as could be desired. To hold the sections in the super he has a 3½ inch follower board at each side of them, with wedges between the followers and the sides of the supers. He also wedges the sections up to one end of the super, so there is an open space at the opposite end also. Mr. Stephenson is well satisfied with this arrangement, as he well may be, for with its use he gets the results he wants.

Contributed Articles.

A Bee-Keeper's Vacation Spent in Wisconsin.

BY C. P. DADANT.

IT is a nice thing to take a vacation if one can find the time and opportunity, but one must feel that nothing left behind will suffer from his absence, and that the money the trip will cost would not be absolutely needed for some indispensable purpose. When you can reasonably combine these requirements, it is easy to figure, on the other hand, how much health and prolongation of life you can secure by a short absence from the daily routine.

My father is subject to hay-fever—a dreaded complaint with which probably a number of my readers are acquainted. This disease, it appears, is a sort of asthma or catarrh, caused mainly by the pollen of the ragweed. The hay-fever sufferers of the United States have formed an association, and have ascertained that their premises in this matter were right—that the disease is unknown where the ragweed does not grow, or grows in such small quantities as to be inoffensive. Sturgeon Bay is one of those privileged spots.

My readers, who are accustomed to observe the blossoming of all plants, since their pet pursuit depends upon the blossoms, have certainly noticed that in our middle States the ragweed grows in most abundant quantities in the stubbles, together with the knot-weed, and Spanish-needles, (which by the way, yield considerable honey), most of the growth of those weeds taking place after harvest. But in the vicinity of the Great Lakes, up in northern Wisconsin, the small grains—wheat, oats, rye and barley—grow so slowly, and ripen so late, that there is not time for any plant like these to grow, bloom, and ripen their seed, after harvest. So Sturgeon Bay is immune, and it is that point which my father has selected for his annual outing to avoid hay-fever. For 14 years he has regularly spent six or seven weeks there, in August and September, returning home by the end of the latter month.

If the reader will hunt up the map of Wisconsin, I will point to him the pretty spot of which I am about to speak. I do not enjoy reading of a place unless I can "place" it on the map, and I take it that others are like me in this respect.

If you have the map, start with your finger on Lake Michigan, from Chicago northward. You will soon come to the peninsula which forms Door County, Wis., and which separates the waters of Lake Michigan from those of Green Bay. About half way along this peninsula you will notice a narrow neck of land, with a little bay indenting the shore of Green Bay. This is Sturgeon Bay. At this point the neck of land is only 1½ miles in width and a deep canal has been cut in the land, joining the two lakes, so that the boats that go from Chicago to Green Bay, Oconto, Marinette, Menominee, and Escanaba, are no longer compelled to go up to the point and run down again, passing at the north end, through what is called "Death's Door," (an ugly name), but you run from Lake Michigan through the Sturgeon Bay canal into Green Bay, and vice versa, saving an extra trip of a hundred miles or so, and the peninsula has practically become an island.

The city of Sturgeon Bay, on the bay of the same name, is thus surrounded by water—Lake Michigan on one side and Green Bay on the other. The air is pure and cool, always refreshed by lake breezes coming from either side, and our Illinois, Iowa and Missouri friends must readily realize what a wonderful treat it is to get away from our parched, dusty plains and overheated fields, roasted by the August sun, and reach an oasis where everything is green and fresh, where mosses and ferns grow all over the forest and form a green carpet under your feet; where the water is cool, and the thermometer is considered high when it reaches 90 degrees in the shade.

Well, business was dull at home, the bees were idle, the small clover honey crop harvested, and our boys were willing to undertake to do all that had to be done, and take from our shoulders the home responsibilities. So wife and I accompanied "Grandpa" Dadant on his usual trip.

The city of Sturgeon Bay is not a fashionable resort. It is a plain, every-day looking little town of 3500 inhabitants, with plenty of grit and lots of "go." The folks are not spoiled by rich tourists, and are willing to accept reasonable sums for entertaining the confiding visitor whose pockets are not overflowing with dollars. Fish is plenty, and the water is clear yes, as clear as that of Lake Geneva, Switzerland; but we miss the snow-capped peaks that form the back-ground in that beautiful spot.

I found four bee-keepers, two of whom are subscribers of the American Bee Journal, and all seemed well pleased with their bees and the crops they harvest. One of them lives right in the city, and has an apiary of 59 colonies. He is employed as a skilled mechanic in one of the large sawmills of the town, but was unoccupied just at the time, as the mill had closed for a few days. We visited him one evening and found that he follows our plan of running the bees for extracted honey—with large hives.

"This is the only way in which I can keep bees and make it pay, and, still continue at my work," said he. "I could not expect to run a large apiary and leave to my wife the care of harvesting the swarms, and following the bees in the harvest of a crop of comb honey, while, by using extracting supers, I can be away from home all day and feel sure that the swarms will be few, and that the bees are

"LOVER'S LEAP," ON GREEN BAY, WIS.

supplied with plenty of room; and it takes but a short time to harvest the crop, when the bees are through with honey-gathering. This is certainly the best method of bee-keeping for a man who is away from his home most of the time."

The honey resources seem to be very similar to ours. White clover is the main crop, but it seems to come later, as wheat does. When we were there, the crop was just over, and but little more honey was expected, and this only from fall bloom which is, they say, rather irregular. Yet there is an abundance of weeds, and the climate seems mild enough to keep moisture in the ground at all times, for the woods are full of ferns, mosses, and plants that can only live in moist ground. But it seems so queer to us Illinois farmers, to see the amount of labor involved in clearing a piece of ground. After the brush has been either grubbed off or burned off, the big stumps from the ancient pines have still to be extirpated, and, after that, the stones must be carried out. These are usually made into fences, as in New England, and when one of them is too large to be removed, others are piled up on top of it, and stone heaps like this loom up in every direction. Many Swedes and Norwegians have settled here, and have very neat farms, and the women work out-of-doors about as regularly as the men.

At the point of land formed by the junction of Green Bay with Sturgeon Bay, the United States government has established a light-house on the edge of a fine grove, and near to the finest fishing grounds in the country. This spot is called "Idlewild," and on the shore of Green Bay almost under the light-house is a projecting ledge of rock, called, "Lover's Leap." I do not know whether or not this name is connected with any Indian adventure. There are so many "Lover's Leaps" in the country that this may not have any very authentic legend, but it is a romantic spot. Together with a half dozen friends, we visited this spot and

went up into the light-house, the lady keeper treating us with the most exquisite politeness and kindness. We saw the fog-bell, which tolls every half minute during the fogs, to warn the passing boats. We ascended the tower and saw the big light, which is only a very ordinary lamp encased in a large globe of cut glass, some three feet in diameter, and with indentures in the glass intended to increase the power of the light, which can thus be seen over 20 miles, and throws alternately a white and red flash over the waters of the Bay. This light, with its clock apparatus which causes it to revolve slowly, we were told was made in Paris, and cost $3000.

After roaming about over the woods, we suddenly found ourselves at a pretty summer resort hidden in the trees, and kept by a Mr. Haines, who proved to be another bee-keeper, and we had no sooner made ourselves known, than we were at home with him and had a splendid dinner served—and "clover honey," if you please, of the very best quality. I thought it quite worthy of notice that this man could keep bees successfully on this lonely spot, with three miles of bay on one side and 20 miles on the other. But the entire country around him being still wild, or nearly so, the wild blossoms must abound.

Well, shall I close with a "fish-story?" We went fishing a number of times, but, somehow, when we had the ladies along, we could not get much. For one thing, wife would not risk herself in a skiff, which she called a "little peanut shell," and we had to fish from a launch, and could not go anywhere and everywhere to the best fishing spots. Finally, a friend and myself managed to get away from our party one fine afternoon, got a row-boat and a boy to row it, and plenty of bait, and we started out on an independent expedition on the Bay. We stayed away some four hours, and had right good luck, and came back to the hotel with a splendid string of perch and pickerel—some 20 pounds. We felt very proud, and called the ladies to the hotel lobby so they might have a chance to admire them before we handed them over to the cook. "Oh what a fine lot," said my wife, "Where did you buy them?"

I will say no more about the fish of Sturgeon Bay, and the nice catches we made, for *you* also might ask me, "Where did you buy them?" Hancock Co., Ill.

Co-operative Effort Among Bee-Keepers.

BY W. T. STEPHENSON.

TRUSTS are the order of the day. Almost every line of industry, except farming and bee-keeping, is being trusted. Why not these?

Not long since some one writing on this subject gave the exact reason why farmers' organizations did not succeed—they havn't confidence enough in each other. They are afraid to risk their commodities in the hands of a representative, even though they would get a higher price. Let us, as bee-keepers, be careful lest we join their grewsome (in the respect spoken of) company.

So much for a prelude; now to the point.

I was greatly surprised when I read the article by Mr. G. M. Doolittle in a recent issue of the American Bee Journal. I was not so much surprised at the stand he took, as I was at the manner in which it was written. He says he is going to call a halt, and proceeds to accuse E. R. Root—(the man who holds the highest and most responsible position among American bee-keepers) of *misrepresentation*. So I am going to call a "halt," but among hypercritics, instead of in the ranks of the long-tongue advocates, as Mr. D. has done.

If Mr. Doolittle had been the fortunate possessor of that $200 queen, it is more than likely that that article would not have appeared, as it would have been to his interest to keep mum.

We are led to think that Mr. Doolittle hasn't been reading the bee-papers very closely, or he would know that he was not the *first* one to call a "halt." The editor of the American Bee-Keeper thinks it deceptive to value an extraordinary breeding-queen at $50, $100, or $200, and to sell her daughters at $10, $15 and $25. Remember, Mr. Hill, these daughters are *red clover* queens. For an illustration, suppose you had a quantity of very deep jars filled with apples; wouldn't you be willing to pay a fancy price for boys with arms of extra length, if all of the apples they could reach were yours?

He asks if any one knows of an instance where fine stock sold for twenty times the price of the very best common stock. Not long since I read of a race-horse ("Flying Fox,") selling for $40,000. It was not because he could implant his good qualities in his offspring, but because of his speed.

If I were a queen-breeder I would promptly send $25 for a queen whose bees had a tongue-reach of 21 100 of an inch; nor would I be afraid of any one applying a $10 "pressure" to the head of a bee from a $15 queen to make the latter a $25 queen.

I'm very glad that at least three of our bee-editors are friends. I wish they were all friendly enough not to "spat" so much. Unless a better feeling is cultivated, our co-operative efforts will never amount to a "row of pins."

Farmers' organizations go to pieces because they doubt each other. Bee-keepers' organizations would do better if they did not accuse each other of misrepresentation and deceptive practice.

After having said all of this, I know of no three gentlemen that I have more confidence in than E. R. Root, G. M. Doolittle, and H. E. Hill. Massac Co., Ill.

Introducing Queens—Side-Lights on a Criticism.

BY W. W. M'NEAL.

WITH the permission of the editor I wish to consider the criticisms by Wm. M. Whitney (page 405) of my article on page 311.

I stated therein that, judging from her rule of action, the honey-bee could not be called a creature of love; that, instead, her ways were harsh and unyielding, and that she is never turned from her given course by that most beautiful qualification—love. It will be remembered that this was said in connection with a plan given for the introduction of queen-bees. I will say here that I am firm in the belief of the correctness of this deduction; for if the bees do have love for one another their love is of such form as to necessitate its being called by another name from that which makes men and women divine.

Mr. Whitney says he was very much "amused" at the fact of my arriving at this conclusion from a study of the habits of the honey-bees; and thinks that he could easily prove the bee to be prompted by the "highest type of love and patriotism," as known and experienced by mankind. I regret the evident lack of the proof of this in his argument; so of course he will excuse me for telling him that I have not been turned from the error (?) of my ways.

When Mr. Whitney compares the cold, heartless methods—the iron methods—of a colony of bees, with the principles of true love as revealed in Christ, or with the basic principles of truly christian government, he assumed a wonderful stretch of ability to make extremes meet.

Mr. Whitney was pleased to call particular attention to the fact that "*Christain* governments provide for the unfortunate and infirm;" and then says further, "but the time was when such persons were disposed of in the most convenient manner possible, as thought for the good of the majority,"—*just as the bees do now.*

If it be true that the honey-bee "knows from *instinct*" how to manage her affairs, then why need any one expect to see her decrees mingled with mercy for the needy and the afflicted, if their requirements run counter to those interests or conditions that give the greatest freedom "to perpetuate the existence of the colony?"

Back of the love of country is selfishness, pure and simple, for the bee well knows that she can not exist alone in the world. This is possible for her only in swarms, and best in large swarms; hence is her "devotion" and "patriotism" laid bare.

The real complexion of the honey-bee's nature must be admitted, accordingly, when we look squarely at the facts, and note that *all* her acts of kindness are directed to that end which tends to promote the greatest *individual* security through the strength of the colony; also, upon the other hand, that the honey-bee invariably follows the stolid routine of utter disregard of the sufferings of the worthy though afflicted members of the colony, is it not a logical conclusion that no ties of love or bonds of sympathy exist between or among them?

The fact that the "bee tenderly cares for her young" simply argues nothing to the point Mr. Whitney seeks to gain. If it were love and not avarice that prompts her to do this, then in time of famine she would not keep back the last mite from those young hopefuls—the larval bees; nor would she tear them from the cells and *consume them!* In more prosperous times we catch another view of the bee's "devotional" nature. The larval bee that is cared for so tenderly till it emerges from the cell is at once banished

into outer darkness, if some physical defect unfits it for duty—a queer kind of love, indeed!

In the fourth paragraph Mr. Whitney virtually denies the correctness of his position by saying that the honey-bee *is* "governed by a law in Nature that means simply the 'survival of the fittest.'" Now what does the survival of the fittest mean in Nature but that the strong shall oppress the weak? This is exactly what I said was the rule of action with the honey-bee—that it's impelling power was greed and not love.

Mr. Whitney's idea of love becomes "amusing" when he tells us to look to the bees for the "highest type of love and patriotism."

Does Mr. Whitney favor a return to those primeval customs for the betterment of social conditions? We will be "gracious" enough to suppose that he does not.

There is at least a shadow of inconsistency in the exceptions Mr. W. has taken to those statements of mine. Believing as he says he does, that the honey-bee is governed by the law of the "survival of the fittest," or, in plain language, the law of selfishness and might, wherein is Mr. Whitney justified in telling the readers of the American Bee Journal that said statements of mine were all fol-de-rol? Would it not stand to reason that since being guided by such a law the queen that is in the best physical condition, or when she is in her best condition to serve her colony, she would receive the kindest treatment from the bees of a stranger colony? Then, why should Mr. Whitney seek to ridicule my instructions for introducing a queen-bee by a method that is in perfect harmony with the law which he says governs the honey-bees? This he does not only with a laugh, but speaks of the plan as being an "experiment," and a "misfortune" to any who would dare to put it in practice.

Now the truth of the whole matter is, Mr. Whitney knows naught whereof he essays to speak. If *he* is disinclined to give any credence to the practicability of introducing a queen-bee by running her in at the entrance of the hive *as quickly as possible* after taking her from the combs of another colony, but wishes to pursue the old-fogy method of caging the queen, I feel sorry for him.

From my experience with, and knowledge of, the habits of bees, I feel like saying that the greatest folly bee-keepers in general are guilty of is the habit of caging the queen when wishing to introduce her into a stranger colony of bees. This caging of the queen takes from her the bloom which is her greatest safe-guard in the midst of stranger bees.

The method I here advise using is so free from fussiness that I can not see why any one should want to bother with a cage when introducing a queen-bee. All that is required to make it a success is, to take away the reigning queen and then thoroughly frighten the colony *immediately* and run the queen into the hive from the entrance. Never let the colony realize for a moment that it is queenless, but get the stranger queens into its hive before she, too, realizes what is being done. Smoking the colony while pounding upon the hive with some object is the most practical way of frightening the bees. This does not pervert the sense of smell so much as it diverts the attention of the bees till the queen has time to reach the combs. Then when the Misses Bees have wiped their mouths and turned about, Mrs. Bee is "at home" to them upon their own combs; and they don't care a tinker what she smells like.

I do not advise introducing laying-queens into colonies having capped queen-cells. The queen can be introduced all right, Mr. Whitney notwithstanding; but too often the young queens are allowed to hatch, and a laying queen has no chance in a fight with a virgin.

Let those who wish to try the method, use their more inferior queens first, till they become conversant with the regulations. It will require but a little time to determine how much smoke and how much pounding upon the hive is necessary to insure the queen's safety.

I believe that the readers of the American Bee Journal will not be long in learning the practical beauty of this quicker and better way of introducing a queen-bee.

Scioto Co., Ohio.

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

Convention Proceedings.

From the Report of the Last Colorado Convention.

ABOUT BEES AND BREEDING.

Question.—Should we have good queens, and what constitutes a first-class queen? Drones should cut a large figure in a first-class apiary.

Mr. Gill—No other point is more neglected and is more profitable. I now have a strain of bees that has been carefully selected for 16 years. I don't care if they are not so prolific. I want them long-lived, with strong wing-power. I want them to live three months, and they will do it. The sources of success lie with the queen.

Mr. Harris—If a queen is weak in honey-production, the quicker you get rid of her the better. We do not dwell on this subject in our meetings as we should. I know, by my own experience, that one queen excels others. The trouble with many queen-breeders is that they do not pay enough attention to the drones.

Mr. Collins—We are all inclined to overlook some things in condemning a queen. Often, when some colony has produced a big crop, it is nearly out of honey. Some of my best colonies have honey in their outside combs, and no brood at any time.

Mr. Lytle—Have we a right to expect brood in the outside combs? The idea is to get a large force in each hive. I have gradually drifted into using Heddon hives, but in my Langstroth hives I usually get eight or nine frames of brood. I put the honey-combs on the outside of division-boards.

Mr. Dodds—I have noticed that colonies that did not breed so much produced more honey. One colony, in particular, bred but little brood last season, but produced nine supers of honey. I think there is more in longevity than in numbers.

Mr. Harris—How does Mr. Gill know that some bees live three months in the working season? We can have queens that are both prolific and have long-lived progeny. We should take both into consideration.

Mr. Gill—I once got an imported queen from Mr. Heddon. I introduced her in a full colony, and thus had two strains of bees in the hive at once, which it was easy to tell apart. I have done so several times. It is easy to tell the old bees, with their black, shiny appearance and ragged wings. I have noticed many times that the colonies of long lived bees are the best honey-gatherers. Some colonies get to the lowest ebb in spring, 90 days before June, and yet come to the front.

Mr. Lytle—I am not quite convinced.

Mr. Gill—To one queenless colony I gave a frame of brood with a queen-cell on it. They tore it down and would not accept any others, and remained queenless all summer, longer than 90 days, and yet had bees left.

Mr. Lytle—That is not the point. Those bees were not in a normal condition.

Mr. Adams—Their longevity is largely accounted for by the fact that weakling colonies can not do much work.

Mr. Collins—You could settle that by making a swarm artificially, by removing all the brood and only leave the new queen to furnish brood.

H. Rauchfuss—How do you know that bees from other hives would not enter? The front row of colonies in an apiary is always the strongest and produces more honey than the other rows. In a heavy wind bees will alight at the wrong hive without knowing it.

Mr. Collins—In one of my yards the hives face every way. The bees would not go in the wrong hive there.

H. Rauchfuss—I set a hive with a pure Carniolan queen away off from the others, at one side, and still it showed some yellow bees. In testing queens I frequently notice this mixing. We also know that bees live long in queenless hives. I believe it wears them more to rear brood than to gather honey.

Mr. Gill—I used to cage queens in the basswood flow in Wisconsin, and have had queens caged from June to September, and made observations in that way. I agree that the front rows mark more strongly than the others.

Mr. Harris—We need to have pedigrees with our queens, and should make queen-breeders furnish them. It would make them more careful.

Mr. Devinny—A number doubt that any change can be made in the nature of insects and other animals. But it can be done. Look at the silkworm and the canary bird. The

silkworm can not now exist without the aid of man, and if the canary bird is turned loose in its native country it perishes. The potato bug was not a potato bug at all at first. It lived on a different plant here in Colorado. Then it traveled and took to potatoes, and now it is called the Colorado potato bug and no longer lives on its original food.

Mr. Lytle—I have one colony of pretty black stock. I know the queen was changed three times by swarming. Yet the colony now is as black as it ever was. I have thought that perhaps the queens of this colony mated with their own drones.

H. Rauchfuss—I think that occurs very seldom. I once requeened a yard of 40 colonies with queens from one queen, and used that queen to furnish drones. Those drones should have been pure. But not more than one out of twenty of those queens was purely mated, and there were but few colonies in the neighborhood, either, and they were not close by.

Pres. Aikin—To sum it up, select the best colonies, displaying vigor and other good qualities, and breed from them. The average apiarist can not do much to control the drones. I have practiced the method of unqueening for years with hundreds of colonies, on whole apiaries at once, so that it made no difference about the bees mixing. The colonies retained their normal strength 21 days, and then they went down, and it only took three or four weeks for them to be materially reduced.

Mr. Gill—That may apply to whole apiaries, and yet a few individual colonies may be longer lived than others.

Mr. Harris—I offer the following resolution:

Resolved, That the Colorado State Bee-Keepers' Association recommends to its members, in buying queens, to buy only of queen-breeders who furnish pedigreed queens, mated by pedigreed drones.

Mr. Honnett—I am opposed to that resolution, not on account of the good it may do, but I know of no such thing as a registry for pure-bred queens. It may be a good thing for experts, but it will put the common people into the hands of sharpers, who will advertise pedigreed queens, when there is no way to pedigree them.

Mr. Harris—You might change the phraseology and do good. All lines of stock are brought up to higher excellence in that way.

Mr. Lytle—No one here has spoken of the National Queen-Breeders' Association. Any competent and honest queen-breeder *can* furnish the information. No one can be a member of the National Queen-Breeders' Association and be dishonest. I believe the resolution is in the right direction. I think we can get a pedigree of drones. I second the motion to adopt the resolution.

F. Rauchfuss—You can control fertilization. There are plenty of places here in Colorado where it can be controlled as surely as on an island. A man could go out a hundred miles on the prairie, and be absolutely sure that there were no other bees within reach but his own. Of course, he could not produce queens for a dollar a piece. He would have to feed.

Mr. Honnett—I am in favor of improving the breed. The question has been discussed by eminent breeders, and they agreed it was impossible to keep queens pure within a certain distance. But it won't be 30 days after you pass this resolution before you will see advertisements of pedigreed queens.

Mr. Large—We don't all practice what we preach.

Pres. Aikin—The resolution does not bind, it only recommends.

The resolution was adopted.

THE RIGHTFUL SHARE IN BEE-KEEPING.

Question.—In working bees on shares, what shall the owner furnish, and what shall be the share of each—comb honey, extracted honey, and increase?

Mr. Harris—There is a great variation in the share one should have, owing to different conditions. The parties should fix that between themselves.

Mr. Foster—I have had a little experience in that line that was not altogether satisfactory. A year ago I gave 10 pounds apiece, or $1 per colony for the season, to the owner. When the colony was above the average I gave $1.50, or 15 pounds. But last year I shared half and half all through, expenses and profits, and when I figured up I found that I had paid the owner $3 per colony, and it was now my turn to cry too much, for he did nothing but look on.

Mrs Brock—I have always leased on halves, and received half the honey and half the bees. It is a question with me how the honey should be divided. Should the lessee take his share as he pleases, or should both parties be there?

Mr. Dodds—I have been leasing bees, and my custom is to stack the honey in a pile, and, if we do not sell together, give the owner the choice of what he wants for his half, say every other case. I furnish my own hives for my increase and he his. If artificial swarms are made, and one of mine doesn't build up, I lose it; if one of his does not, he loses it.

Mr. Collins—I have offered the first 20 pounds from each colony, just such as comes.

Mr. Pattee—I have given half of the honey and half of the increase, the owners furnishing their own hives. We divide the honey.

Mr. Dodds—I think Mr. Collins' is the most desirable plan. There is another way, to have the owner furnish everything and own everything. Then there is no chance for the owner to say that increase has been made with discrimination. The apiarist does the work and gets half the honey. He simply puts his work against the capital.

Mr. Pattee—I cleared eight colonies and $110 off of 17 colonies, spring count. I took 2500 pounds of honey.

F. Rauchfuss—Now, let us hear a few bad reports.

Mr. Honnett—I started with 110 colonies, spring count, and had a return of 110 cases of honey.

Mr. Brock—In my early experience I bought 40 colonies of a man who was to run them on shares. They increased to 66. Next spring I had three left and was $500 out.

Mr. Honnett—I endorse that plan of the owner furnishing everything. Then there is no clashing about swarms. The hives offset the swarms and fixtures. It is very equitable.

F. Rauchfuss—The most satisfactory way is for both parties to rent on a cash basis. Say there are 100 colonies. I pay $1 a year apiece, cash rental, and have an impartial person examine them on the first of October to see that I return bees, supers, hives and fixtures in exactly the same shape that I found them. The lessee ought to be expected to furnish a bond or security. Of course, common law will protect the owner if damage is done. By this plan all increase goes to the lessee.

Mr. Harris—In 1898 I put into winter quarters 85 colonies. The next spring I had 35 colonies, and got 800 pounds of surplus honey.

Mr. Collins—By my plan, if there is not much honey, you are not out, and there are no bees to divide. I would not follow Mr. Rauchfuss' plan for one year alone, if there is foul brood in the neighborhood, for it might appear in the apiary the next year, and I be held liable for introducing it.

F. Rauchfuss—Circumstances alter cases.

Mr. Honnett—In my locality I catch at least as many swarms from outside as come from my bees, and there would be a chance for a clash there.

Mr. Collins—I would have that covered by the agreement.

FAULTS THAT JUSTIFY REQEENING.

Mr. Martin—A colony with a drone-laying queen should be requeened, providing it is populous. Otherwise, it should be united with another. If a queen is lost during the flow, or when the colony is populous, the colony should be requeened. I often requeen a colony soon after it has swarmed (if I find one that has swarmed without my knowing it) and cut out the cells at the same time. When I find a colony with an unprolific queen, I sometimes kill her. I also requeen colonies that show inferior traits in capping or finishing honey, or in some way are not good workers.

Mr. Collins—Do you not replace the old queens on account of age?

Mr. Martin—Not if they are prolific. Sometimes it is not the fault of the queen if the colony is weak. It is hard to lay down a rule. Then sometimes a colony with a laying worker does not wish to accept a queen. In such a case, I advise doubling up or stocking up with bees. One can follow no general rule. This year I had two colonies whose honey was capped quite differently from that of the others. The combs were of a "washboardy" shape, and did not fill the sections. In one hive I had three supers of that honey all capped, but it was all second grade. Such colonies I would advise requeening.

Mr. Kruger—Last May I found a colony with a drone-laying queen. It swarmed in June, and I gave one of the cells to the swarm and left two with the old colony. The swarm did well, but a queen hatched in the old colony that never laid.

Mr. Sylvester—Queens are sometimes imperfect.

Mr. Harris—When I find laying workers, I move the hive some distance and put another colony in its place. Then I shake off the bees in front of the hive and introduce a queen, which is accepted.

Mr. Collins—I had a colony of laying workers that refused to accept queen-cells. Then I took a band-cutter and slashed the brood all up, after which they accepted a cell.

Mr. Dudley—I used to move such a colony about 100 feet

away and then shake off the bees. I think a better way is to put the hive on top of another colony which is not strong enough for the super. In a few days the bees will kill off the laying workers. You can then return the hive to its stand and introduce a queen.

H. Rauchfuss—That plan is a good one, but one thing was omitted. A sheet of paper with a hole in it should be placed between the two hives, to keep them from fighting. Then the two hives might be left together. Some will say that makes one less colony. But if you want increase, you can raise up some brood into it from below, move it, and introduce a queen.

Mr. Dudley—I forgot to say that I use the paper in uniting. As to having one less colony, I consider that as soon as laying workers are found, that is a lost colony.

Mr. Lytle—It is wise to supersede every queen that will not give as much profit as the average. It is not wise to supersede any queen that has given good satisfaction. Two queens that I received by mail I introduced with tobacco smoke. The way to do is to smoke thoroughly until every bee in the hive has been reached, then open the hive and let them run in. The theory is that the inside bees are stupefied, including the old queen, while the new queen is vigorous, and hence overcomes her rival when they meet. In one instance I found the old queen lying outside of the entrance a few minutes after the new one was introduced.

Mr. Rauchfuss—Is there not danger of robbing when this is done outside of the flow?

Mr. Lytle—There is, and in three cases in which I did so after the flow, I reduced the entrance to a one-bee space.

Mr. Harris—I tried introducing six queens with tobacco smoke, and lost five. I used tobacco stems, and gave it to the bees vigorously, and let the queens run in. Two or three days afterwards they were not there.

Mr. Kruger—I use a cloth dipped in peppermint and water, and laid over the frames. I have never lost one queen.

Mr. Rhodes—Has any one tried smoking with cloths soaked in saltpeter water, and dried?

H. Rauchfuss—Yes, that practice is common in Germany, and has long been known. It stupefies the bees so they drop off the combs. There is another use of those salt-peter rags that I will call attention to, though it is not connected with the subject. They are just the thing to light a smoker with, since they do not go out after being once lighted. A small piece is sufficient to start a fire.

VALUE OF FREQUENT COMMUNICATION BETWEEN BEE-KEEPERS.

Mr. Foster—I find that I secure my best points in bee-keeping by button-holing my bee-keeping acquaintances. It also is of value in one's own neighborhood, especially when foul brood is about. In this way I discovered and got rid of a bad case that otherwise would have been a menace to my bees. Free communication with reference to foul brood has such a value that it almost pays one to carry it on as missionary work.

Mr. Martin—I moved 100 or more colonies into a new locality, where I had no time to look around. I noticed they were gathering honey very early, investigated, and found a neighbor's colony being robbed that had foul brood. In another case I found a hive set out in which bees had died from foul brood, and bees working on it, though mine had not yet found it. I have had several such experiences, and have, therefore, made it a point to have frequent communication with my neighbors, whether it is very welcome or not.

Mr. Collins—I found a foul-broody colony once in a schoolhouse, where the bees had been for five years.

Mr. Bonnett then gave two instances, mentioning the names, of foul brood being moved into his neighborhood in former years, and added:

Mr. Bonnett—This convention also proves the value of free communication, for many of us have ideas that we are not able to express until they are brought out by discussion.

Mr. Foster—A friend of mine, who is slow to accept new ideas, came to me once and said he had lost 40 or 50 swarms by absconding. On investigating I found that he had hived his swarms in hives with little ventilation, and set most of them in the hot sun without shade-boards. Those set in the shade stayed. I gave him the needed instruction, which communication was probably of value to him in the future.—Annual Report of the Colorado Board of Horticulture, 1900.

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

THE GOLDEN BEES.

It's a very singular state of things, to say the very least, which Mr. Doolittle narrates on page 501. A leading breeder of golden bees, he has never, he claims, pushed them in any way, and never even advertised them! One can hardly avoid saying that if they are desirable bees better *say so*—"in season and out of season," as the phrase runs—in advertisements and out of the same. On the other hand, if they are undesirable bees, sphynx-like silence while selling them by hundreds looks too much like the spider-and-fly sort of ethics.

EXTRACTING IN HOT WEATHER.

When it gets to 110 degrees in the shade you must not extract unless combs are wired in for keeps. Arizona contributes this slice of wisdom; and we can believe it very easily. Most of us would prefer the hammock to the extractor at those figures. Page 507.

RELATION BETWEEN SWARMING AND HONEY-FLOW.

I take considerable interest in the experience of Wm. W. Case, page 507, that a heavy run of honey coming on suddenly stops swarming. At my yard this year swarming was violent, and stopped very suddenly; but my mind did not connect this with any change in the honey-flow. Perhaps if I had watched the honey-flow more minutely some relation between flow and swarming would have appeared.

A NEW BEE-SOCIETY SUGGESTED.

Mr. Bechly, we shall need a society for preventing cruelty to bees if you do not extemporize some sort of shade when the thermometer goes up to 108 degrees. The "Light Brigade" were hardly more worthy of fame than those bees that hung out during the cooler portions of the torrid days, and marched "into the gates of hell," when it got its hottest, to save their brood by watering and fanning—if that's the way they did it. Page 508.

HIVING SWARMS WITH WEAK COLONIES.

As to hiving in swarms with weak colonies, I am still undecided as to whether it is worth while or not. Tends towards having "all colonies strong;" but don't believe I'd practice it very much if I was sure of an abundant supply of hives ahead. Saving the queen of the weak colony, and giving her immediately to the colony that gave the swarm, is a kink which will bear thinking of. If she was to blame for her colony's being weak, the other colony would better rear their own. In the much more common cases of bad food or bad keeper, it looks good practice provided experience does not find it originating a second series of swarms. Page 507.

SPLINTS VS. WIRE FOR FOUNDATION.

Splints standing in saw-kerfs at top and bottom, eh? Little by little a method gets the additional touches it needs to make it complete. Who knows but what wire for staying foundation will eventually take a back seat and let splints see the play from the front row? Page 504.

PAPER SACKS FOR HOLDING HONEY.

I doubt if Mr. Davenport's tombstone will say anything about his adopting the paper sack to the carriage of honey. The little packages "will come to grief" at the hands of the hired girl, and the big ones at the hands of the freight handler, methinks. If everybody read and obeyed directions it might be different. Page 517.

RENDERING WAX WITH BRINY WATER.

For rendering wax, the inside fitting sieve of Adrian Getaz, to boil the wax up into, looks a good thing. And to increase five fold the rising force of wax is quite a brilliant thought. Good boy but! Even a good boy sometimes has to be sent back to his seat to finish a problem. Will brine take hold of dirty refuse and break it up as well as soft water? The two are quite different fluids, chemically. Possible that brine may be the better of the two, but the probability looks strongly the other way. Perhaps the salt must be added after the soft water has done its work. Boiling brine

might be poured in after the dirty soft water has been drawn off through a faucet. But then, perhaps the advantage of this method over other methods was its simplicity; and when we have put all the improvements on it, will not the simplicity be gone? Wires have a high specific gravity, consequently a strong gravitative attraction, much more than threads. I suspect this originates some of the difficulty in getting the wax to rise. A sieve bottomed with cheese-cloth instead of wires might be tried. Page 516.

HONEY FROM MULBERRY FRUIT (?).

If Dr. Peiro has honey that was stored from white mulberry fruit, and it is good, he has done experimental apiculture a proper good turn. But I hope he will pardon the grain of salt slowly melting on our tongues. If we knew he fed a colony at least five pounds in 48 hours—if we knew said colony didn't get over a pound of nectar meantime—if we knew "the man on the fence" found a marked difference in flavor between the honey and the honey in the next hive—I am not asking him these questions, I am only ruminating them. On the whole, I think I have more faith in that currant-mulberry jam. Page 524.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Felt Roofing For Doubled-Walled Hives.

Has any one had experience with felt-roofing? If so, what satisfaction does it give? I want to build some double-walled hives and try it. Also state whether two or three ply is required. MICHIGAN.

ANSWER.—I know nothing about the matter from experience, but should expect good results. Can any one tell us anything about it from actual practice?

Keeping Bees on Shares.

I have 16 colonies of bees—11 in dovetail hives. I have winter-cases for 25 colonies, foundation-fastener, bee-escapes, and some other appliances. The colonies are all strong and healthy, as they were examined by J. M. Rankin, July 21. I expect to let the bees on shares to a neighbor, he having the whole care and all the sales to make. What share should each one have? MICHIGAN.

ANSWER.—Your conundrum is a tough one. So much depends upon the knowledge and skill of the man who has the bees in charge that about the only thing to do is to shut one's eyes and make a guess. Taking into account what you say of your neighbor in a private note, I should guess that you should be satisfied if he turns over to you one-third the amount of his sales. But mind you, I don't guarantee my guess; neither do I agree to replace it with a new one in case this should not give satisfaction.

Perhaps No Disease at All.

I send a small piece of brood-comb for your examination. Can you tell me what it is? It does not seem to have the symptoms of foul brood, nor pickled brood, as I think they both attack and kill the larvæ, and you see the bees are perfect and nearly ready to hatch. I might think it a case of chilled brood, but I had a colony similarly afflicted July 16, and I would not think brood could be chilled at that time. I have two colonies afflicted with it now, and both have been, and are now, weak, but the first colony, affected in July, was very strong. I treated it *ala* McEvoy for foul brood, and it is all right now. I shall treat these in like manner, but I would like your opinion as to what the trouble is. The bees do not seem to carry out the dead brood, and the queens are laying only in one comb. Is it a new disease? NORTHERN ILLINOIS.

ANSWER.—You give no descripition of the trouble, and the only thing to judge from is the sample of brood sent. Giving a hasty glance, I should say there was no trouble whatever; the smell is sweet and good, and healthy bees are now emerging, two days after mailing. A closer examination shows nothing wrong with the sealed brood, but something wrong with the few specimens of unsealed brood, they being well advanced toward maturity. If you had made no mention of any trouble, I should still have said there was none. The young brood has no diseased look, but the appearance of having been partly torn out by the bees, as in a case of starvation or chilling. It would hardly seem likely that there would be chilling or starvation, yet until you say there was no possibility of such a thing my guess would lean that way.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

SYMPATHY IN SPORT.

"The Home Circle," page 569, urged recreation. Let us all sympathize fully and truly with our children in their varied sports. I visited my son two years ago. Though 24 years of age, he was a member of a base-ball club, which played match games quite frequently. He was the man behind the bat, and his side usually won, and he was a prominent factor in the success. I rejoiced that he wrenched himself from his regular duties for this neighborhood outing. First, it rested and recreated him. It did the same to many others. It gave the whole community a rest-day of pure, unobjectionable pleasure. It robbed other attractions, not so wholesome, of their power to lure and demoralize.

The next day I found the players in the Sunday-school, and rejoiced that my son showed the same enthusiasm in teaching a large class of young people as he exhibited on the ball-ground, the day before.

I thank God for all wholesome sport.

THE STRIKE.

Among the many beautiful, wholesome, and inestimable fruits or uses of our American homes is that of making sentiment. In our prayer-meeting last night we discussed reverence, its use, and how it might be cultivated. A home with the spirit of reverence ever gilding its precious environs—reverence for God, for the Christ spirit, for truth, honesty, and purity, will be one of the most gracious seed-beds of genuine reverence for all that is holy and good. It should be the happy privilege of all our home circles to foster and strengthen every good sentiment.

How excellent and frequent are the opportunities to do this most beneficient work. My father had the reverent habit. I am sure his life helped all of us children in this good way. He hated tobacco, and the saloon. I never put tobacco into my mouth, and I always feel like crossing the street to avoid the saloon, which my father taught me was a very pit-fall of wickedness and lust. With my father's example, I could never have used profanity, and vulgar language, and slang has ever been distasteful. My own experience vivifies and glorifies in my mind and thought the power of the good home to make sentiment.

Is it not unwise for us to magnify in our thought this phase of home influence and blessedness? Is it not wise to discuss great questions as the times bring them before us, that we, and all in the home circle, may gain and carry with us from the home correct views of life, its duties, and functions?

To-day the strike is the great theme in everybody's mouth. It comes from the widespread unrest, and the far-reaching grievances among the laboring classes. Mr. Chauncey Depew said, years ago—and he is in position to know—that the laboring men have a grievance. I believe he was right. That grievance does not down with the years; nor will it cease to raise its threatening visage till the laboring classes are as able to assert and maintain their rights as are those who employ them. I assert a truism, when I say that for honesty of purpose, real, genuine integrity, unswerving patriotism, and unselfish desire to promote the good of all, the laboring people, as a whole, are now, and will ever be, greatly superior to the people of wealth—the employers of labor. Abundant means to gratify every wish, with no let or hindrance; possessions not won by one's own efforts; ability to overreach

and hold down the one who may seem to oppose—all tend to breed selfishness.

The poor man—the average laboring man—early learns self-denial. He is not pampered, and becomes thoughtful and kindly towards others. He is trended by very circumstance in the way of unselfishness. The rich person in the cradle has equal potency to a worthy, unselfish life that the poor man has. Condition of life is what swerves him to the wrong and unfeeling. Hence the words of Shakespeare. "I'd rather be a dog and bay the moon than such a man." And Christ's "how hardly shall a rich man enter the kingdom of heaven;" and James' "Go to, ye rich men: weep and howl for the miseries that shall come upon you."

Are riches, then, worthy the coveting? Are we wise to bend *all* to their getting? The comfortably well off poor man is in best hope of character development. With a nation of such we are safe. We may all hope and pray that our people may all be in comfort. We may well work and legislate that few gain extravagant wealth. The laborer gains his ends by worthy effort that *always* adds to the world's wealth and blessing. He also has the dignity of position that comes from independent maintainance. The very rich, with few exceptions, either have had their wealth poured into their laps, or else have gained it through questionable methods, and without giving value received. In either case they are not to be envied, and have not the best citizenship.

That the poor man labors under the burden of a fearful handicap, is shown in the report from one of the iron-mill towns, where the taxes of the mill property were fixed at less than ¼ what the laborer had to pay on his property. True, this was granted by the town. But the company was able to pay more than any other, and able, also, and willing—to their shame be it said—to secure this unfair and wickedly inexcusable reduction. Can these unfair advantages which now are as thick as pebbles on the beach, ever be stopped? They can and will be. I hope soon. The power to do this will only come through complete co-operation; when the laborers, through the wise management of their truest, ablest, best men, shall have equal voice and influence with the men of capital who employ them. The laborers are so many, and so scattered, and often so ignorant, and so blind to their own best interests, that it will take long to bring this blessed consummation. Complete union with education to make it safe, and its behests right and wise, is what the country and the laborers most need. I believe it was to promote such union that this strike was ordered. If it helps even a little to bring it, it will be worth all it costs. If it was ill advised, and does not hasten the day of fullest co-operation, then it is greatly to be regretted.

I long to have the "other half" in such complete union and accord that they will act as one man. Then they can hold up their heads, and can dictate equally with the rich employers. Then, and not till then, will the laborers cease to have a grievance. Any discontent that hastens education and fosters union is halcyon, and should receive our sympathy. A strike that hastens on complete union—at least complete enough so that the laborer may have equal voice and influence in the settlement of all disputed questions—is to be desired, if there is no other way, even though it bequeathes a legacy of business disasters and commercial interference that may touch our industries grievously, and far and wide.

It is to be regretted that arbitration rather than strikes can not be used to hasten effective union. The men who inaugurated the strike expected that their action would hasten and strengthen more complete co-operation. If they were correct in this judgment, then they acted wisely, even though the great public is wholly against them. If they judged wrongly, and so delay the day of fullest union and oneness, then their action is greatly to be regretted. The injuries to others, and general suffering, are most unfortunate, but our greatest reforms often mount upward on the stairway of pain and suffering.

Let us all in our homes strive to beget in our children right views and feelings regarding all these great issues.

THE ARMY CANTEEN—PROHIBITION.

I am glad our old friend, A. I. Root, sounds forth such wholesome views regarding the canteen. While I have always voted with the Republican party, and am not ready yet to sever my connection, I have great sympathy with prohibition. If I thought voting prohibition would hasten it, I should not hesitate a moment. The prohibition of the liquor-traffic is the greatest issue before our people. The saloon men always fight the canteen in the army, prohibitory laws, local option, every effort to stay the liquor-traffic. If the canteen were favorable to temperance, why would the saloon interests be solid against it?

I hope the law against the canteen will hold its gripe in our statute books.

[We would like to suggest to Prof. Cook that it is not a question whether voting prohibition will bring prohibition; it is rather how a conscientious Christian man can continue to vote *with* saloon-keepers, brewers, etc., and still retain a clear Christian conscience, and also see any hope of staying the saloon evil.

A bigger question just now than the saloon question is this: Are the Christian voters of this country going to do *their duty*—live right up to their church resolutions on the great subject of prohibition, or, are they going to continue to stand before the world as inconsistent people, talking one thing and doing another?

Personally, we are consistently and eternally against the saloon, and intend to continue to use the heaviest possible weapon for its overthrow, namely our *vote*. We don't have to win in this fight, but *we do have to do the right, and our consistent duty.*—EDITOR].

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via the Nickel Plate Road, daily, with limit of 15 days; 20-day tickets at $16, and 30-day tickets at $21 for the round trip. Through service to New York and Boston and lowest available rates. For particulars and Pan-American folder of buildings and grounds, write John Y. Calahan, General Agent, 111 Adams St., Chicago. 22—37A3t

GENERAL ITEMS

Much Interested in Her Bees.

A queen I sent for came safely to hand last Friday forenoon. I introduced her in the afternoon. To-day I looked into the hive and found her laying nicely. She is a fine looking queen, and I am much pleased with her. I feed them a little syrup every night. I think the colony had been queenless some time. I had been away from home a couple of weeks and found them queenless upon my return. I hope to do well with her another year. This is my second summer with bees, and I become more and more interested in them.

MRS. W. J. HILLMAN.
Richland Co., Wis., Aug. 30.

Best Honey Crop in Two Years.

The honey crop in Kankakee county can be called good this year—the first good crop in two years. The quality of the honey is fine—mostly from sweet clover, white clover, and basswood; but as to the latter two items, we would have but little surplus if we depended

QUEENS

Now ready to supply by returned mail. STOCK which can not be EXCELLED!!! Bred under the SUPERSEDING CONDITION of the colony.

GOLDEN ITALIANS, the GREAT HONEY-GATHERERS. They have no SUPERIOR and few equal. 75c each; 6 for $4.00.

RED CLOVER QUEENS, the LONG-TONGUED ITALIANS, which left all RECORDS behind in GATHERING HONEY, $1 each; 6 for $5. SAFE ARRIVAL GUARANTEED.

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Catalog free; send for same.

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Excellent shipping facilities and very low freight rates for Southern and Eastern territories.

Bees that Have a Record

(See page 459 American Bee Journal.)

Have longest tongues, handsome, gentle, great hustlers for honey, all tested queens, and sold at rate of $8 per dozen. By return mail.

HENRY ALLEY, Wenham, Mass.

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The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

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SUPERIOR

Red Clover Queens

We have obtained, this season, 150 pounds of comb honey per colony, one-third red clover honey. Untested, 75 cents; ½ doz., $4.00. Tested, $1.00; ½ doz., $5.50.

LEININGER BROS., Ft. Jennings, O.

34Etf Please mention the Bee Journal

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on Buffalo Pan-American tickets via Nickel Plate Road. $13.00 for round trip, tickets good 15 days; $16 00 for round trip tickets good 20 days. Three daily trains with vestibuled sleeping-cars and first-class dining-car service on American Club plan. Meals ranging in price from 35 cents to $1.00. Address, John Y. Calahan, General Agent, 111 Adams St., Chicago.

23—37A2t

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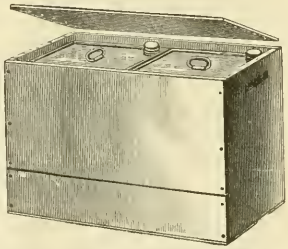
ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



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This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 8 cents per pound; four or more cans, 7½ cents per pound. Basswood Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are boxed. This is all

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The finest of their kinds produced in this country.

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I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more marked flavor, according to my taste. C. C. MILLER.

McHenry Co., Ill.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

on them. Sweet clover is our great staple for surplus honey. It grows in great abundance here along the roadways, railroad rights of way, and around our stone quarries.

From reports, I believe the average honey crop will be 50 pounds per colony. One beeman reports an average of 100 pounds from 35 colonies. Also another has two colonies that have produced 150 and 175 pounds each, respectively.

Let the honey-producers plant the white and yellow sweet clover in their vicinity, and they will have to do no fall feeding to winter their bees. We average one super of honey from heartsease in the fall. "KANKAKEE."

Kankakee Co., Ill., Aug. 28.

Bees Working on Buckwheat.

My bees are rolling in the honey now from buckwheat. I got more clover honey this season than ever. Almost all colonies that didn't swarm filled two supers, and most that swarmed filled one; and I will get two more from the most of them yet, if nothing happens to the buckwheat. My bees started the second swarming fever this week. I have been returning the swarms. G. W. BELL.

Clearfield Co., Pa., Aug. 23.

An Experience in Transferring.

EDITOR YORK:—I recently wrote to know if you could supply me with some back numbers of the American Bee Journal, and you kindly sent me a few. Since becoming a subscriber I find them useful, and every beekeeper should have one of the Emerson binders to keep from misplacing them as I did.

For instance, to show their usefulness, I wanted to unite, and at the same time transfer two weak colonies from boxes or "gums" to movable-frame hives, and I readily found advice by looking over some of the back numbers, and went to work. It being my first job, I began about as timidly as a young surgeon would when amputating his first limb from a human being. However, I made a complete success, which I will tell for the benefit of beginners like myself.

I first moved one of the box-hives close beside the other to be united, several days beforehand, for them to get acquainted with all the surroundings before transferring them. When the proper time arrived I went to work as follows:

First, I prepared a table by placing a wide board over a flour-barrel and folding a crocus sack several times over the table, and on top of that I spread a paper. Of course I had provided myself with all the necessary tools, etc.—a honey-knife, narrow chisel, and the clamps—made by tying two narrow strips of thin wood together at one end, and leaving the other two open to be tied after placing them around the comb.

Next, I moved both hives back about two feet and placed a movable-frame hive about half way between the location of the two box-hives.

I next opened one of the hives and took out a comb and fastened it in a frame of the new hive, having wired the brood-frames first, and then cut the combs to fit into the frames the best I could; and then the wire on the underside holding the combs till I could fasten the clamps.

In wiring my frames I placed the wire to one edge of the frames instead of placing it in the center. This gives room for the comb to rest well in the frame, which I find much better than to have it in the center.

I took pains to put the brood in the center of the hive. I first used up all the comb of one box-hive, and then brushed the bees in front of the new hive, and they soon ran in. I then opened the other box-hive and went through the same process, by using up first the best and fullest combs. Remember, I brushed the bees off of the combs back into the old hive until I completed the first box-hive, and after beginning on the second hive I brushed the bees off of the combs into the new hive, and by the time I used the last comb of the second hive I had nearly all the bees in the

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.

new hive; but what were left, after taking out all the combs, I brushed off in front of the new hive.

I paid no attention to the queens, as each box-hive colony had a laying queen. I left that to the bees to regulate.

By uniting the two colonies I had a hive running over with bees, and more comb than the brood-chamber of the new hive would hold. so I got a super and filled it with the remaining comb. There were no supers to either of the box-hives, and each had eight combs fastened to eight slats laid like frames in the box-hives, but were without bottoms or end-pieces—merely the top of a frame.

Of course I found considerable crooked comb, and had to fasten some pieces of comb in the frames of the new hive. This is a mighty sticky, messy job. If one is not patient and capable of using good judgment he is very apt to make an ugly job of it.

I will say for the benefit of others who may have had less experience than myself, that the best time of all to transfer bees into a new hive is the first of the swarming season, when the combs are light and mostly empty. But I am so much opposed to little, weak colonies that I was willing to double them up, even at a risk of failure, in order to fix them better for winter. However, many beemen are opposed to uniting weak colonies on the ground that after being united they may soon become as one weak colony at last, unless the queen keeps up the numbers, which she is not likely to do, and in the end you will have only one ordinary colony, where you had two that *might* have built up to be ordinary colonies.

I find that my two colonies united peaceably, without smoking them, and have gone nicely to work as one powerful colony.

JOHN KENNEDY.

Adams Co., Miss., Aug. 8.

Report for the Season of 1901.

I put into winter 73 colonies, and last spring I had about 50 good, bad, and indifferent. It was the worst spring on bees of any in my experience, which dates back to 1892.

From 50 colonies, or thereabouts, I secured about 2000 pounds of honey, nearly all comb, and increased to 69 colonies. Less then 20 percent of my comb-honey colonies swarmed, though this was a great year for swarms for most bee-keepers here.

The prospects are that bees will go into winter in good condition, though the prospects for next year are very poor, on account of the drouth which still continues.

E. S. MILES.

Crawford Co., Iowa, Aug. 22.

Mulberry Growing.

Will Dr. Peiro give answers to the following questions in the American Bee Journal?

1. How large do mulberry trees become as to height and spread?

2. How long from mailable or expressable sapling to fruiting?

3. Is the white variety better than the black? Is there a difference in hardiness?

4. Is "Russian" mulberry the right name? I can find other names of white varieties, but no "Russian."

5. Is any kind better adapted to dry places than others?

6. Is it liable to attacks of any pests?

7. Do bees work on the blossoms?

8. Cyclopedia says it is closely related to figs. Has it similarly enclosed numerous seeds, the "fruit" being the fleshy receptacle?

Monterey Co., Calif. A. NORTON.

Dr. Peiro has kindly replied to Mr. Norton's questions as follows:

1. Black mulberry trees grow to 20 inches in diameter, while the white variety does not attain so large dimensions, to my knowledge. Both spread broadly.

2. They bear fruit in about five years from 6-foot trees (expressable), inch diameter.

3. The white variety is best at honey-producing, being much sweeter than the black. I believe both varieties to be equally hardy.

4. "Russian" is the usually accepted name for the white. It may only be derived from its capacity to withstand extreme cold without material injury.

5. I believe the various kinds are equally hardy in dry localities.

6. I know of no insects that seriously infest the mulberry. It is clean and apparently free from diseases.

7. I do not know that bees work on its minute blossoms. I would not depend upon its possibilities.

8. Yes, the mulberry is not remotely allied to the fig, in general growth, resemblance of leaves, and minute size of its seeds. The flavor of the white mulberry is more like that of fig than the black, though this may not be apparent to all tastes.

Finally, the cheapest way (and it seems to me, the best) is to insert cuttings into places where you wish them to root and remain. This should be done in July or early in August. DR. PEIRO.

Standard Bred Queens.

Acme of Perfection.
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IMPROVED STRAIN GOLDEN ITALIANS.
World-wide reputation. 75 cts. each; 6 for $4.00.
Long-Tongued 3-Banded Italians
bred from stock whose tongues measured 25-100 inch. These are the red clover hustlers of America.
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We will mail one of the above queens alone for 75 cents; or 3 for $2.10.

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Bees and Mathematics.

The construction of geometrically perfect cells is not the only mathematical operation performed by bees, according to Abraham Netter, who read a very interesting paper on the subject before the Paris Academy of Sciences. The Revue Scientifique reports that he brought out the following facts:

"Not only is the construction of the cells carried on by mathematical rule, but many operations of the insects also; for instance, the collection of the maximum amount of honey in the minimum time, and the division of the workers among the plants proportionally to the number of plants of the same species. In the hives, the number of bees engaged in ventilation is almost rigorously proportional to the daily increase of weight of honey, etc. Facts of this order relate to arithmetical proportion, while those having to do with cell-building relate to geometric ratios."

M. Netter is of the opinion, however, in spite of this show of apparent intelligence on the part of the bees, that "all their movements, without exception, are of the nature of reflexes;" that is, performed without consciousaction, just as we close our eyes instinctively when a motion is made toward them.—Translation made for the Literary Digest.

"Reviewlets" from the Bee-Keepers' Review.

BEE-ESCAPES should be placed at the corner of the board instead of the center. Mr. J. B. Hall, of Ontario, says that the bees race around the *edges* of the board in their efforts to escape.

ONTARIO, Canada, has a good crop of honey this year. I think that 75 pounds of extracted honey per colony would be a safe estimate; although many report a yield of 100 pounds, and H. G. Sibbald secured an average of 150 pounds from three yards.

WIRE-CLOTH supports for the combs are used by F. A. Gemmill, of Ontario, in the solar wax-extractor. Wire-cloth is tacked upon frames laid over the metal bottom of the extractor, and then refuse combs laid upon the wire-cloth. The wire-cloth catches and holds most of the cocoons, etc., and prevents them from running down in the wax.

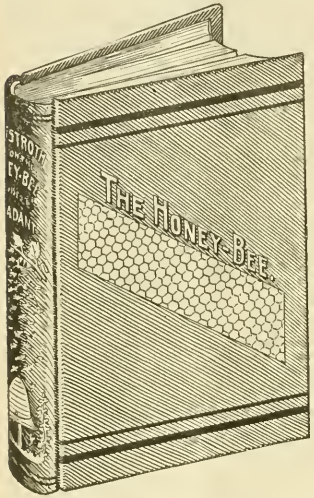
J. B. HALL likes to have each colony occupy the same stand year after year; as it is much easier to remember the characteristics of a colony that always stands in the same place. This is one reason why he is particular, when taking the bees from the cellar, to place each colony upon its old stand.

FOUL BROOD can be treated late in the season, after brood-rearing has ceased, by shaking the bees off upon sealed combs of honey. What little infected honey they carry with them will all be consumed in a short time—long before brood-rearing will again be

Langstroth on... The Honey-Bee

Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son.



Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us **THREE NEW** subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

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BEES WAX We will pay 26c. cash, per lb. for pure, bright yellow beeswax, and 29c. cash, per lb. for pure, dark beeswax delivered here. CHAMBERLAIN MEDICINE CO., Des Moines, Iowa.
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commenced. Of course, the combs of sealed honey given the bees must be free from infected honey.

GETTING BEES OFF THE COMBS is the most disagreeable and laborious part of producing extracted honey. Last winter, over at the Ontario convention, some one said that this could be greatly avoided by simply taking off the supers and setting them down near the hive—the bees would desert the super for the hive. Mr. Miller, of Ontario, told me that the securing of this knowledge had been worth dollars to him. He gives the bees a good smoking, which drives down most of them, then sets the super down near the entrance, when the rest of the bees leave the super for the hive. This is the way in which I always have removed surplus comb honey from the hive, until the time came when robbers were troublesome—then I used the bee-escape. Mr. Miller also uses the escape when robbers give any trouble.

SHIVES (the waste of flax) is regarded by Mr. Miller, of Ontario, as excellent material for packing bees in winter. It is more compact than forest leaves, and can be packed away in summer with less use of space. It does not wet through readily, even if exposed to a heavy rain. A sort of coating or crust, that will turn water, seems to form on the outside of the mass.

WINTERING BEES in the North is still sufficiently uncertain to allow of its being discussed. Practically there are only two methods—in the cellar and protected on the summer stands. Mr. Jacob Alpaugh, of Ontario, proposes to experiment by putting 10 colonies in one big, chaff-packed box. The hives themselves will not be packed in chaff, as he wishes to avoid all that labor, but the bottom and sides of the box are to be made of thin lumber, double walled, and filled with dry sawdust. Three hives will face each end of the box, and two face each side, the entrances being placed opposite openings cut through the walls of the box. Cushions will be placed on the tops of the hives, and the cushions will be of such a size as to completely fill the box from side to side above the hives. By this arrangement the work of packing and unpacking consists in simply setting the hives in and out of the boxes; while the combined heat of 10 colonies will assist greatly in keeping up the temperature.

LIGHTING A SMOKER is a quick operation if rightly done. Here is a pointer: When through work don't empty out the fire and unburned material. Stuff some grass in the nozzle to stop the draft, when the fire will gradually go out, leaving some charred brands that kindle very easily. Jacob Alpaugh, of Ontario, uses planer-shavings for fuel. When I was at his place he picked up his smoker, poked a hole at one side in the half-burnt remains of the last fire, dropped in a lighted piece of paper, gave a puff or two, sprinkled in some fresh fuel, gave another puff or two, filled up the smoker, put on the cover, and puffed out perfect clouds of smoke, in exactly one-half minute *by the watch*. We went out in the yard and opened hives, and the smoker *stayed* lighted. This is away ahead of lighting fresh shavings saturated with kerosene oil.

FLY ESCAPES are needed on the windows of a dwelling as much as bee-escapes are needed on the windows of a honey-house. It was the last of July when I visited the home of Jacob Alpaugh, of Ontario, and, actually, there was not *one* fly in the house. At each upper corner of each window-screen the wire-cloth was pried up one-fourth of an inch by

Send for circulars regarding the oldest and most improved and original Bingham Bee-Smoker. FOR 23 YEARS THE BEST ON EARTH.
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QUEENS! QUEENS!
From honey-gathering stock. Tested, $1.00; untested, 75 cents. "SHADY NOOK APIARY."
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They hold sufficient ink to write 10,000 words, and **do not leak or blot.**

As they make a line of **uniform width** at all times they are **unequaled for ruling purposes.**

Pens are furnished in neat paper boxes. Each pen is accompanied with full directions, filler and cleaner.

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19,000 Postmasters use this kind of a pen. The Editor of the American Bee Journal uses the "Foster." You should have one also.

How to Get a "Foster" FREE.

Send TWO NEW SUBSCRIBERS to the American Bee Journal for one year, with $2.00; or send $1.90 for the Pen and your own subscription to the American Bee Journal for one year; or, for $1.00 we will mail the pen alone. Address,

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at Buffalo Pan-American Exposition, via Nickel Plate Road. Good only in coaches. Tickets on sale Sept. 14 and 15, good returning to and including Sept. 22. Three through trains daily, leaving Chicago forenoon, afternoon and night. Specially low rates, with longer limits, available in sleeping cars, on same dates. Through service to New York and Boston. For particulars, call on or address John Y. Calahan, General Agent, 111 Adams St., Chicago. 25—37A1t

pushing in two little blocks of wood. Flies get into a house when the doors are opened. Sooner or later a fly goes to the window, runs up to the top, scurries along first to one corner or the other, and, if he finds an opening, out he pops, never to find his way in again by the same route. What would we think of a honey-house with crowds of bees hanging around the door that was opened dozens of times a day, and no opportunity for the bees to escape over the tops of the windows? We know that it would be full of bees all of the time. A dwelling with screens on the doors and windows is an exact parallel. Put escapes at the tops of windows and there is no necessity for sticky fly-paper.

CONVENTION NOTICE.

Illinois.—The annual meeting of the Northern Illinois Bee-Keepers' Association will be held in the Court House in Rockford, Ill., on Tuesday and Wednesday, Oct. 15 and 16, 1901. All interested in bees are invited to attend.

Rockford, Ill. B. KENNEDY, Sec.

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Illinois Day at the Pan-American Exposition.

The Nickel Plate Road will sell tickets for that occasion at rate as low as $10.50 for the round trip, good going Sept. 14 and 15, and returning to and including Sept. 22. For particulars regarding tickets at specially low rates, with longer limits, available in sleeping cars, on same dates, call on or address John Y. Calahan, General Agent, 111 Adams St., Chicago. 26—37Alt

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Sweet Clover (white).....	$ .60	$1.00	$2.25	$4 00
Sweet Clover (yellow)....	.90	1.70	4.00	7.50
Alsike Clover	.90	1.70	3.75	7.00
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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Comb and Extracted Honey. Will buy your honey no matter what quantity. Mail sample of extracted, state quality of comb honey and price expected delivered in Cincinnati. I pay promptly on receipt of goods. Refer you to Brighton German Bank, this city.

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Wanted Fancy White Comb Honey in no-drip cases; also Extracted Honey. State price, delivered. We pay spot cash. FRED W. MUTH & Co., Front & Walnut Sts., Cincinnati, Ohio. Reference—German National Bank, Cincinnati.
28A17t Please mention the Bee Journal.

WRITE US

If you have large or small lots of HONEY to sell.

State quantity, how put up, kind of honey, price expected, and, if possible, mail sample. We pay spot cash.

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E. R. Pahl & Co.
34Atf MILWAUKEE, WIS.
Please mention Bee Journal when writing

Wanted Comb and Extracted Honey!

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Wanted—Honey.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Aug. 22.—White comb brings 15c per pound for the choice grades, with other lines not grading No. 1 selling at 13@14c; light amber, 12@13c; dark, 10@11c. Extracted, fair demand at 5½@6c for white, and 5¼@5½c for amber; dark grades, 5c. Beeswax steady at 30c for choice yellow. R. A. BURNETT & Co.

CINCINNATI, Aug. 10.—The honey market is rather dull on account of the warm weather. Extracted sells only to manufacturers from 5@6c; better grades alfalfa water-white from 6@7c; white clover from 8@9c. Fancy white comb honey sells from 13½@15½c.

C. H. W. WEBER.

BOSTON, Aug. 19.—Our market to-day is about 16@17c for fancy; A No. 1, 15½@16c; No. 1, 14@15c. Extracted, full supply, light demand.

Several lots of new Vermont honey in cartons have thus far been received, meeting a ready sale at 17c, although of course in a small way. The trade generally seems disposed to hold off, looking for larger receipts and lower prices. This is somewhat due, of course, to the fact that the demand is still light owing to the warm weather. Cooler weather will make a better demand and naturally make a better feeling.

BLAKE, SCOTT & LEE.

ALBANY, N. Y., Aug. 20.—We quote: Fancy white comb, 16@17c; No. 1, 15@16c; No. 2, 13@14c; mixed, 12@13c. Extracted, light, 7@7½c; mixed, 6½@7c. H. R. WRIGHT.

OMAHA, Aug. 8.—New comb honey is arriving by express in small quantities from Iowa and Colorado, and selling at $3 50 per case in a retail way. California extracted honey is being offered carlots at 4½@4¾c per pound, f.o.b. California shipping-points, but we have not heard of any sales having been made thus far. The production of extracted honey seems to be quite large this year in Colorado, Utah and California. PEYCKE BROS.

NEW YORK, Sept. 10.—Comb honey is now beginning to arrive in large quantities, and, as a rule, quality is fine. The demand is good, and we quote as follows: Fancy white, 14@15c; No. 1, 13c; No. 2, 12c; and amber, 11c. No buckwheat is on the market as yet, but are expecting same within a week or so. Extracted is selling slowly, with plenty of supply, at 5@6½c, according to quality, and Southern in barrels at from 55@65c per gallon. Beeswax dull at 27c.

HILDRETH & SEGELKEN.

DES MOINES, Aug. 7.—There is very little doing here in new crop of honey. Some small lots of near-by produced comb honey are on the market and selling in a retail way at $3.50 to $3.75 per case. We do not look for much trade in this line before Sept. 1. Our market does not consume a great deal of extracted honey.

PEYCKE BROS. & CHANEY.

DETROIT, Aug. 12.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.

M. H. HUNT & SON.

BUFFALO, Aug. 10.—Quite a good demand for fancy honey, 16@17c, and lower grades, 12@14c; old neglected. Advise moderate shipments only of new as yet. BATTERSON & Co.

SAN FRANCISCO, Aug. 14.—White comb, 11@12½ cents; amber, 8@10c; dark, 6@7½c. Extracted, white, 5½@—; light amber, 4½@5c; amber, 4@4½c. Beeswax, 26@28c.

Market continues quiet, with apiarists, as a rule, unwilling to unload at prices generally named by wholesale operators. Quotations represent as nearly as possible the values ruling at this date for round lots, although free sales could not probably be effected at full figures, while, on the other hand, higher prices than quoted are being realized in the filling of some small orders.

KANSAS CITY, Aug. 6.—Some very fine Missouri honey is now on the market, selling at 16@17c per pound for fancy white comb. Colorado and Utah shippers are offering new comb honey in carlots for first half of August shipment at 10c per pound for No. 1, and 9@9½c for No. 2, f.o.b. shipping-point. The market for extracted honey is as yet rather unsettled, asking prices ranging from 4¼@4½c, f.o.b. shipping-point. Buyers, however, seem to be in no hurry to make contracts. PEYCKE BROS.

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RED CLOVER QUEENS

BLACK ROCK, N. Y., Sept. 3, 1901.

FRIEND ERNEST:—I will try and tell you what you want to know about that queen. I got her of you in 1899 as a premium with GLEANINGS. I never saw a small colony of bees build up as that one did. In the spring of 1900 they came out in fine shape, wintered perfect. I raised them up in May and gave them 8 frames more so the queen would not want for room. I never saw such a colony of bees as they were in June, and they were actually storing honey when other bees in my yard were starving. No! they were not robbing. I never saw those two best colonies of mine trying to rob. THEY CERTAINLY WORK ON RED CLOVER. This is no guesswork, as I have seen them. As you know, the past two seasons have been very poor, and what honey my bees did get in 1900 candied soon after cold weather set in. I packed this colony in a chaff hive and left them out, thinking that such a strong colony would winter perfect. The snow came on the middle of November, and those poor bees never a fly until the last of March or the first of April. When warm weather at last came I thought they were dead, as they did not seem to be flying much, so I did not pay any attention to them until in June. I noticed they were working a little, so I opened up the hive and found them in the upper story. I took the lower story out and left them in the one body. The queen was laying nicely, and I thought they would make a good colony to winter. Along the last of July I noticed that they needed more room. I gave them a super, 24 boxes, and in a few days they had it full. They have made 72 boxes of as nice honey as you ever saw, and are drawing out some starters now, Sept. 2.

Very truly yours, GEO. B. HOWE.

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" " " Tested Queen	4.00
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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., SEPTEMBER 26, 1901.

FORTY-FIRST YEAR
No. 39.

WEEKLY

Officers of the Texas State Bee-Keepers' Association.

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DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

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OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

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Saves Its Cost Every Year!
NO ODOR! NO SMOKE! NO ASHES!
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The editor of the American Bee Journal is using the "Barler Ideal" Oil Heater, and it is all right in every way. We liked it so well that we wanted our readers to have it too, so we have recently arranged with its manufacturers to fill our orders. The picture shown herewith is the one we recommend for general use. It is a perfect gem of a stove for heating dining-rooms, bed-rooms, and bath-rooms. It hinges back in a substantial way, and is thoroly well made thruout. The urn removes for heating water. The brass fount, or well, has a bail, and holds nearly one gallon of kerosene oil. It is just as safe as an ordinary lamp. You wouldn't be without it for twice its cost, after once having one of these stoves. Most oil-stoves emit an offensive odor, but this one doesn't. Its hight is 2½ feet, and weighs 20 pounds, or 30 pounds crated ready for shipment, either by freight or express.

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[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

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The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

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How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., SEPTEMBER 26, 1901. No. 39.

Editorial.

Bees and Pear-Blight.—The fruit and bee men of California seem to be sensible enough to get along without quarreling and lawing, and certainly some of the bee-men show an excellent spirit. They have agreed to move their bees away from the pear orchards during the blooming period, so as to help solve the question whether the bees are the chief criminals. The views of some of the scientific men are given in Gleanings in Bee-Culture. Prof. Waite seems inclined to pass judgment against the bees, but at the same time considers them a necessary evil, for he says he has found as the result of an extensive series of experiments "that bees are indispensable to the pollination and setting of most of our pomaceous fruits." Prof. Cook says:

"I have little doubt that bees do aid in scattering the virus; but I am far from convinced that their removal will abate the trouble, or is wise and necessary."

Prof. Gillette thinks it will be a considerable time before we can draw any positive conclusions. He thinks that if the bees were the chief operators the late varieties of pears should suffer more from blight than the early ones, and he has not observed this to be the case.

"Honey Without Bees."—Dr. R. H. Strickland, of Perry Co., Tenn., sends us the following, which appeared in an advertisement taken "from a scientific (?) quasi-medical journal:"

HONEY WITHOUT BEES.

This is an age of marvelous discoveries and inventions. Every day brings forth something new, and every year is marked by some astounding discovery which completely upsets all preconceived notions in some department of knowledge or industry. Marvelous discoveries have been made in electricity and the uses of steam and the utilization of the various forces of nature, but a discovery which is really more far-reaching in its results, and perhaps capable of immediately benefiting a larger number of persons, is a process worked out by an eminent physician by years of laboratory research, whereby it is possible to make honey directly from wheat and other cereals without the aid of chemicals of any sort, and by a process essentially identical with that by which honey is manufactured by plants ready to be *collected and stored by the cunning little feet of the honey-bee.*

Malt honey, or meltose, looks like honey, *tastes like honey, in chemical composition is essentially the same as honey, and as a food is superior to honey, since it is free from germs, pollen, fragments of flowers, dust, and other foreign matters,* and may be eaten without injurious effects, even by most delicate individuals, whereas many persons can not eat honey, even in small quantities, without experiencing ill effects. *Malt honey is genuine honey; not an imitation or a substitute, but the real thing,* derived from the original source—the plant—but without the assistance of bees, and by a process which renders it absolutely pure and wholesome. It is the only sweet which can be eaten in liberal amounts without injurious effects.—[Italics are ours.—ED.]

We feel a just pride in the perfection of this very remarkable and useful product, after spending some years and thousands of dollars in research for the purpose.

Dr. Strickland says in his letter accompanying the foregoing, "It may not be worth noticing." Well, it certainly wouldn't be "worth noticing" were it not for the manner in which the thing is described and advertised.

If its discoverer doesn't know any more about food products than he does about the way bees gather and store honey, he is truly a fine specimen of ignoramus. Think of bees collecting and storing the nectar of flowers with their "cunning little feet!" If that were true, they ought to store about six times as much as they do, as they have six times as much feet as tongue. If this learned (?) food inventor were right, bee-keepers would be breeding for more and longer feet than for longer tongue-reach in their bees.

Well, we secured a sample of the wonderful (?) "meltose" that is said "looks like honey, tastes like honey, and in chemical composition is essentially the same as honey," etc. If honey were like it, we would care for no more honey. It has a taste (to us) almost like sorghum molasses, is thick and cloudy, resembling in appearance a poor quality of glue or mucilage. If we were to put up for the Chicago grocery trade stuff like it, and call it honey, we would expect to kill our trade on the first round among our customers. And yet, the great inventor of "meltose" says it is "genuine honey"—"the real thing!" True, he says bees had nothing to do with its manufacture—and we believe him. Bees wouldn't degrade themselves by turning out a product like "meltose"—not from the blossoms of white clover, basswood, sweet clover, etc. The idea of man claiming he can make honey equal, or superior, to that produced by bees! (Of course we mean the best grade of extracted honey, not honey-dew.)

From the glowing advertisement of "meltose," one might be led to think it is a sort of comb honey. It isn't. It is simply an imitation of extracted honey, and we consider it a poor one at that.

We do not say that meltose has no valuable food qualities—we know nothing about that part of it. What we object to, is the claim that the stuff is the "same as honey" (bee-honey), "the real thing," etc. Also, the attempt to prejudice the public against genuine bee-honey, by claiming that it contains injurious "germs, pollen, fragments of flowers, dust, and other foreign matters," deserves to be severely condemned. No honorable man or firm would do that.

It's a pretty safe thing to shun people who claim they have "genuine honey" that was produced "without bees!"

Sugar for Bee-Feed.—For years a difference of opinion has prevailed as to the best kind of sugar to use in feeding bees. Those who are supposed to know tell us that granulated sugar made from beets is identical with that made from sugar-cane. But things that are identical from a chemical standpoint are not always the same, as witnessed by the familiar instance of diamond and charcoal; and across the ocean it has been earnestly insisted that sugar from beets was unfit for bees, and that cane-sugar alone should be used. If it were easy to be sure of getting cane-sugar, the safe thing would be to use that alone, but one can not be sure of what granulated sugar is made, and the amount of beet-sugar is all the time on the increase. Since we are in a manner forced to use what is very likely to be beet-sugar, we may take some comfort from the experience of Editor Root, remembering that the proof of the pudding is the eating. He says in Gleanings in Bee-Culture:

Personally I do not have any uneasy feeling about the sugar question. It is not proper for us to boast; but for the last 10 or 12 years we have used beet-sugar for feeding our bees; and if any one can show a higher wintering average than we—one who has used cane-sugar—we should like to have him hold up his hand. Our wintering losses very often do not exceed 2 percent, and the very highest is 15 percent, I believe. This covers a period of about 20 years. I suppose a fair average would be between 3 and 4 percent. If Mr. Morrison is correct, the beet-sugar is better than cane. But my honest impression is that, with either sugar, we shall get good results. The trouble from sugar-fed colonies is more because the syrup is fed too late or too thick, and the bees do not have opportunity to ripen it. If it is fed during warm weather, when they can fly, half and half, *other things being what they ought to be,* I would not give two cents to have the colonies insured.

A New Honey-Plant is announced every now and then, and at different times there has been a sounding of trumpets over some new plant that was to be kept by the acre and give wondrous yield, as, for instance, the Simpson honey-plant, figwort, and Chapman honey-plant. Acres of ground were planted with these, and at the instigation of bee-men the Government made an appropria-

tion to distribute the seed of one of them, but at the present day little is heard of them, and it is not likely that any one considers it advisable to make a plantation of either of them.

It seems pretty well settled that to make it profitable to occupy tillable land with any honey-plant, that plant must have a value aside from its honey-yielding properties. Hopeless as the case may be considered with regard to any plant for honey alone, there is always a possibility of the discovery of some plant of value for other purposes which has the additional value of being a honey-yielder. Even the remote possibility of such a thing makes it worth while to experiment with a large number in the hope that out of the many there may be found one that will be profitable.

In the National Stockman and Farmer, the winter or hairy vetch receives high praise as a plant for feeding and other purposes, but no mention is made of its honey-yielding qualities. In a late number of that excellent farm journal J. A. Macdonald speaks upon that point after this wise:

Some months ago I made mention of the winter or hairy vetch in an article in the National Stockman and Farmer, but in mentioning many of its various points of value, as a soiling plant, pasture plant, manurial value, etc., I did not observe that this vetch was a splendid honey-plant, and that clover does not begin to compare with it in this regard, for the reason that the time of bloom of clover is comparatively short beside hairy vetch. I wonder if any of your readers have noticed this new value of this vetch; if they have, they have taken very good care to keep the information to themselves. Your valued correspondent, Mr. Lighty, and a bee-man, too, has spoken, in your columns, of the many valuable attributes of the hairy vetch, but I, at least, have failed to see any mention by him of the honey-yielding qualities of the plant, and I would now ask him to say if he ever noticed this point of value.

First, let me say that there is no more beautiful sight than to look upon a field of hairy vetch in its full purple bloom, and this view presents itself for a very long time, and this is why such a remarkably fine honey-plant, supplying nectar to the bees for weeks. You see this vetch, when sown in spring, is very tardy in maturing seed, but continues to put forth new bloom from week to week, and a bloom which the bees are exceedingly fond of. On a patch of this vetch sown May 10, I notice bloom about the first week in July, but it was not until three weeks later, or the last week in July, that it appeared in full bloom, and still at this date (Aug. 9) it is showing a brilliant bloom, though pods are maturing on the lower portions of the plants. For the last ten days the plants are literally covered with bees. A few days ago I tried to estimate the number of bees flitting from bloom to bloom, and as far as I could reckon there was an average of ten bees to the square yard, that is, in the immediate vicinity of the particular spot where I was standing. Some say there are no more than four or five bees working to the square yard, but no matter what time of the day I go into that vetch patch (which, by the way, we are cutting for partial soiling of cows and pigs), there are lots of bees working industriously.

Hairy vetch is a wonderful plant indeed, so many points of value has it. As a soiling plant mixed with a little oats it's a wonder, and ahead of anything I ever saw. Peas don't begin to compare with it at all. As a pasture for swine it is fine, and though I never cured any of it for hay, I can not but believe it must be good for this purpose, too. As a spring crop with me it is ahead of a winter crop, and produces about seven tons of green forage per acre, and lastly comes its wonderful value as a honey-plant. I wish bee-men every where would give the plant a trial for its honey-giving qualities; and I would greatly wish to hear from those who have the hairy vetch growing to report its value in this regard.

Now in the hands of others this plant may or may not be found of value. The probability is that in some localities it will deserve the kind words with which Mr. Macdonald speaks of it, while in others it will be of little value. But the possibilities in the case warrant a thorough trial on a small scale. Its long period of bloom, and its continuance in bloom after white clover is done are special points in its favor wherever it is found to be a success.

Has any one of our readers had any experience with the plant? Has any one any further knowledge of it? If so, let us have all the light possible about it.

Weekly Budget.

President William McKinley—the most widely respected and honored president of the United States in two decades—was shot down by an anarchistic demon in human form, while he was holding a reception at the Pan-American Exposition at Buffalo, Sept. 6. The terrible wounds resulted in his death early Saturday morning, Sept. 14.

Of course, this is no news to the most of our readers, as the daily press has been crowded for almost two weeks with columns upon columns of matter bearing on this awful event. It is almost too sad and terrible to write about. There should be no room for a single anarchist in this "land of the free and home of the brave." We strongly favor the suggestion that all the anarchists in this country be exiled to two high-walled islands of the sea, the men to be assigned to one island, and the women to the other. Give them sufficient to eat as long as they live. After that the "breed" would be at an end.

We have not the slightest sympathy for those who would shoot down any one placed in official position, and the sooner such dastardly cowards are humanely and effectually disposed of the better for all concerned.

Getting Late for Queen-Orders.—On account of the season getting late—cool weather, etc.—we wish to announce that we will be unable to accept any more queen-orders to be filled this season. We appreciate very much the queen-patronage that has been extended to us this year, and trust that it may continue next season. We also hope that all the queens received through us may prove entirely satisfactory, as we believe they will.

Hon. J. M. Hambaugh, writing us from San Diego Co., Calif., Aug. 31, had this to say:

Friend York:—The reliable, old American Bee Journal, boon companion to the wide-awake bee-keeper, cometh regularly, and is always welcome here in this far-away land of the Sunny Pacific Slope. I am afraid there are very few bee-keepers that can fully appreciate the energy and grit of the Editor who so faithfully compiles and prepares a weekly intellectual feast for its patrons upon topics relating almost exclusively to the honey-bee. Long may the old, faithful American Bee Journal live and prosper under the guidance of our "auld lang syne" friend, George W. York, is our sincere wish.

It seems that fate has placed me at the extreme western limit of Uncle Sam's domain, where I am isolated from the haunts of my early life. Yet I can truthfully say I have no regrets, and have many reasons to be thankful, chief among which is an added lease upon life. Myself and family have enjoyed much better health here than we did in the East. The daily visitations of the cool, invigorating salt-breeze atmosphere is a panacea for almost every human ill, and hundreds and thousands at this season of the year hie away to the banks of the ever-rolling, restless ocean, to bathe in its cooling serf, and rest from the business cares of life. I imagine that could you but be suddenly transferred from your murky, blistering Chicago furnace to the banks of our Pacific clime, you would be suddenly impressed with the wide contrast, and would only wish to tarry here the balance of your mortal career.

Respectfully yours, J. M. Hambaugh.

Thank you, Mr. Hambaugh, for such expressions of kindly feeling and appreciation. Such go far toward resting the tired head and hand that often become so through the incessant efforts necessary to be put forth in order to send out the old American Bee Journal every week in the year. But, after all, it is a pleasant work. And one can keep on doing it with an honest feeling that he is really and truly helping some one—yes, helping many, who want and need just such aid as this journal gives.

To all our increasing thousands of readers we pledge continued effort and devotion, health and strength permitting.

Home and Apiary of J. W. Adams.—On page 615 will be found a picture of "Oak Grove Apiary," belonging to Mr. J. W. Adams, of Montague Co., Tex. He took his first lessons in bee-keeping from his grandfather when he was a mere boy, but never kept bees until after he was married. He moved to Texas in 1884, and seeing so many bees there the old desire to keep them was revived, and so he bought some black ones in box-hives; these he transferred to Langstroth hives, and by making a study of the bees, and reading all the books he could secure, he has made a success of the business. He is also a farmer and stock-raiser.

Mr. Adams secured about 100 pounds of comb honey per colony last season (1900), which he sold at 12½ cents per pound; he gets 9 and 10 cents per pound for extracted honey, and has no trouble in selling all the honey he can produce, at these prices, and the middle of June he was behind 1000 pounds on his orders. He is the only practical bee-keeper in that locality, but through his efforts some have become interested in bees, and others have begun to improve their stock, and adopt the standard hives.

In the picture, the little girls to the left are Mr. Adams' daughters, the little one in the buggy is the baby, and the young man in the background is his eldest son, who has charge of his queen-business.

Mr. A. N. Tyler, of Tyler Bros., located in Sutter Co., Calif., called on us last week. This firm of bee-keepers have 1800 colonies of bees, and their crop this year was about 20 tons—only about a quarter of a crop, so Mr. Tyler says. He thought the total amount of honey in California this year would be about 250 car-loads. This is perhaps half of a full yield. Quite a lot of sweetness, however, and will likely have noticeable influence on the honey market of the country.

Contributed Articles.

The Honey Market and Crop in California.

BY GEO. W. BRODBECK.

WE bee-keepers of Southern California have been forced to confront conditions in the marketing of our product this year that we have never been obliged to face before; and I firmly believe that if the majority of our bee-keepers were patrons of our leading bee-papers, this state of things could not exist.

Every season we are informed from outside sources (and sometimes within), that Southern California will have an enormous crop of honey, and it matters not whether the conditions are favorable or not (last year as an illustration), with the consequent result prices are established before the honey is ready for the market and the amount produced is unknown. This year has not been an exception in this respect to the past, but that which has lent additional interest and more than all else to depress the market, has been the action of some within our own ranks. The object, of course, is self-evident, for the circulation of the rumor of a large crop has a depressing influence upon the bee-keeper who is forced to sell, and when the middleman quotes a well-known bee-keeper as authority, it lends force to the statement; and as the former has no means at hand to know of the vast quantity of honey that has been shipped to the United States from Cuba, Hawaii, and Puerto Rico, (this information is supplied by the buyer or go-between), knowing not whether it is true or false as to state of market, etc., he quietly submits and sells for the price offered.

We all know beyond question, that at the beginning of this season we had less than one-half of the bees to produce a crop with than four years ago, and yet the statement has gone forth that we produced as much, and more, than we did four years ago. I know beyond question that we have many honest buyers, and I know of bee-keepers who have been aiding these men in a legetimate way, but when men from our own ranks circulate statements with the express view of depressing the market, and thereby affording them a profit, I think it is time the California bee-keepers were warned against their practices, and it is this which prompts this article.

While I am not disposed to pose as authority in regard to this year's crop, information from some of our leading bee-keepers, and other sources, indicates that we have produced about 150 car-loads of honey, all told. Over half of this has been marketed. Comb honey has been produced in limited quantities, due to unfavorable conditions, and this has nearly all been disposed of. The remainder of our product is in the hands of men who can hold it indefinitely.

Los Angeles, Calif., Sept. 7.

How Do Bees Manage to Survive the Winter?

BY "AN OBSERVER."

BEES survive the winter by packing themselves in clusters between combs of waxen cells filled with honey. The low temperature a cluster of bees so situated can resist and still keep alive is really marvelous, and is only paralleled, in the other extreme, by the degree of heat a bacillus spore can withstand without losing its vitality.

Water, if kept from circulating, is as bad a conductor of heat as eider-down (see "Encyclopedia Britannica," ninth edition); and honey, for the same reason, contained in wax cells 1-5 inch in diameter and ½ inch deep, must be an exceedingly bad conductor. We can, therefore, presume that although some heat must be lost, the loss through the combs may be reckoned as nil. The cluster loses heat around the outer circle, at the periphery; the circumference is the radiating and cooling area.

Now, if we take a cluster of bees, say 10 inches in diameter and ½ inch thick—about the distance between the combs—we find that the cluster would be very nearly 40 cubic inches in volume, and the radiating or cooling area would be 15½ superficial square inches; three cubic inches of bees, therefore, only expose to the cold a little over one square inch of surface. If we take a cluster 5 inches in diameter we find the volume to be 10 cubic inches, and the radiating surface or area 7¾ square inches; and, if we take a cluster 4 inches in diameter, the volume would be 6¼ cubic inches and the cooling area 6¼ square inches. The 10-inch cluster has, therefore, three times the advantage of the 4-inch cluster, and, in proportion to volume, three times more heat will be required to keep up the temperature of the smaller cluster.

The relation of volume to cooling area may be shown thus: It would take the bees contained in four clusters of 4 inches in diameter to make one cluster 8 inches in diameter, and the cooling surface of the 8-inch cluster would be one-half of the cooling area of the total of the separate 4-inch clusters. The bees, therefore, in the larger cluster would require only one-half the heat to keep up their living temperature that they would in the smaller clusters.

If we take a cluster one inch in diameter the volume would be the half of .7854, say four-tenths of a cubic inch, and the cooling area the half of 3.1416, say 1½ square inches; the cooling area is, therefore, proportionally four times greater than in the 4-inch cluster, and is too large to allow of much fall in temperature with safety to the bees. So small a cluster could not exist in winter, except at the equator or near to it.

The individual bee is very sensitive to cold, but we must remember that a cubic inch exposes 6 square inches of radiating surface, and that the volume decreases or increases as the cube, and the surface as the square. A bee in mass or volume is less than the sixty-fourth of a cubic inch, and its radiating, cooling, or heating surface is more than one-third of a square inch. Assuming the sixty-fourth of a cubic inch to be a cube, its surface would be three-eighths of a square inch. This cube would therefore expose a radiating surface proportionally twenty-four times greater than the 4-inch cluster. The single bee, when incorporated in the 10-inch cluster, must be afforded over sixty times more protection from cold than it would possess outside the cluster.

The space between the combs is important. We will consider the distance between the combs in reference to the cooling area, and at the same time the supply of food, as these are closely related. The 10-inch cluster, between combs ¼ inch apart, is surrounded by 80 cubic inches of honey—supposing the cells to be full—and as a cubic inch of honey weighs .05 of a pound there are 4 pounds of honey within reach of the cluster for the bees to feed upon. We will now suppose the combs to be one inch instead of ½ inch apart; the bees clustering close would occupy 7 inches instead of 10 inches—the volume is not changed, it remains 40 cubic inches. The cooling area, however, has been increased to 22 superficial inches, and the honey within the immediate reach of the cluster has been reduced to 2 pounds; in place of 2 cubic inches of honey to the cubic inch of bees, we have only one cubic inch of honey to the cubic inch of bees. The food supply has been diminished 50 percent, and the cooling area of the cluster increased 40 percent. The bees must therefore consume 40 percent more honey to keep up their temperature; and this increase of consumption and decrease of supply would necessitate their change of quarters in search of food in one-fourth the time required had they remained at the ½-inch distance. It must be understood, in reference to increasing the cooling area and the correlative consumption of food, that the capacity of the bees to keep up temperature by feeding is limited, and in a badly proportioned cluster, *i.e.*, a cluster radiating more heat than the bees can generate, the bees will die with an abundance of stores around them.

When the depth of the combs allows the bees to locate their stores above the brood-cells, they always lengthen the store-cells so as to leave only ¼ inch space between the combs. Let us see what the bees gain by diminishing the distance. Taking the 4-inch cluster between combs ½ inch apart, it would have to extend itself to nearly 5¾ inches to remain the same in volume at the ¼ inch distance. The cooling area would now, from diminishing the distance, be reduced 30 percent, and the honey within the immediate reach of the bees would be increased, from 2 cubic inches to the cubic inch of bees, to 5 cubic inches to the cubic inch of bees—that is, 150 percent.

From the facts here stated I think it is evident that the size of the cluster and the depth of the combs are really the essential requisites for wintering, and that, as a general rule, the size of the cluster and depth of combs must increase with the degrees of latitude. As the combs increase in size, they must, of course, be diminished in number, and if the construction of the hives should not

admit of the requisite sized combs for the latitude in which they are to be used, the bees will not be able to winter successfully in them.

The fecundity of the queen, so far as we know, does not vary with the latitude and can not, therefore, be brought to bear on the subject in regard to the general area of combs used.

The bees survive through the winter by preserving as well as they possibly can the heat of their clusters; and as the general interior temperature of the hive can only be raised by the loss from these clusters, it follows—paradoxically, as it may appear—that the colder the general interior of the hive the better are the bees wintering, through the preservation of heat in their clusters; and it also follows that if upward ventilation, or draught, through the hive is prevented—which draught the bees dread above all things—the entrance to the hive can not be too large.

In the spring, however, when the bees extend from the cluster over their combs, warmth in the general interior of the hive has its advantage; but if great enough to cause the bees to leave the clusters too soon, it might be productive of more harm than benefit.

The controversy concerning the merits and demerits of cold and warm hives by the presentation of the above facts is reduced in importance. The main object to be considered is their construction to admit of combs adapted to the size of bee-clusters required in various latitudes.—British Bee Journal.

No. 2.—A Bee-Keeper's Vacation in Wisconsin.

BY C. P. DADANT.

FRIEND reader, last week I left you after telling you a fish story, yet I have no doubt that you wish you had been along with me when those fish were caught. But this happy neighborhood has other attractions besides good fishing, for they tell me that there are both deer and bear in the woods around Sturgeon Bay. I was rather inclined to doubt the existence of the latter in a section already so well populated, but having had occasion to take a drive into the country for a visit to an apiarist, the lady who accompanied us showed us the spot where she had been badly frightened by the appearance of a bear while walking along the road. "And," said she, "though I turned to run, the bear was as badly frightened as I was, for he also turned and ran the other way."

The woods are indeed wild, in spots, more brush than timber, for all the good timber has long ago been cut, and made into lumber, and the forest fires have destroyed what had not been despoiled by human wastefulness. The thickets are so dense that it is, in some places, almost impossible to get through, and they say that in the deer-hunting season it is not very safe to travel about in those woods, not on account of the bears, but on account of the careless hunters who are apt to shoot at anything that they see moving in the thickets, before they have ascertained what sort of game it is.

Those woods contain all sorts of evergreens and many deciduous trees, chief among which are the beech and birch. There are also shrubs, blackberries, and the inevitable red raspberry, which I am told exists all over the North, clear up to Alaska and the Klondike. This is certainly a very nice thing for the bees, and if the honey from the raspberry is half as fragrant as the wild berries themselves, it must be delicious. But it may be with this as it is with the early fruit-bloom in Illinois, perhaps the colonies are not sufficiently powerful at the time of the bloom to take any advantage of it. But there is plenty of this bloom, for the waste land and the woods are full of red raspberries.

The white pines that formerly composed the bulk of the forests in those parts have disappeared, and if you accidentally notice one, towering above the rest of the forest in lonely majesty, you may be sure that its trunk is defective and rotten at the core, for that is the only thing that could have saved it from the ax. When the first settlements were made, the main puzzle for the white man was how to get rid of the wood, and we can still see traces of an awful waste of timber that would now be valuable. I saw a small apiary in an enclosure made of trees two to three feet in diameter. Two logs had been rolled side by side, and a third one put on the top of them, making a barrier about four feet high and four feet in diameter at the base. Of course this fence was old, probably 25 years or more, but it was still sufficient to keep out stock, and stood as a witness of the haste with which people destroyed the forest. May we not, as a nation, be sorry later on, for not having retained at least a part of those beautiful forests? The pine timber is getting more expensive, and experienced lumber-men predict that within ten years most of the pine will have to be purchased in British America. Already most of the timber on the shores of the big lakes has been picked over, even on the Canadian side, and although many and many a boat-load is seen coming southward towards Chicago and the big centers, yet the quantity is less than formerly. Some saw-mills are cutting only hemlock, such timber as was considered worthless 20 years ago.

A TUGBOAT TOWING SAILBOATS ON THE LAKE.

But the destruction of the forest does not seem to injure the bee-industry, for if many wild plants are thus destroyed, it is there as in our prairie States, many of the cultivated plants are honey-yielders, and the white clover steadily gains a foothold wherever cattle graze. So the prospect is rather for an increase of honey-production than for a decrease. And the Golden Age, in a country "flowing with milk and honey," is certainly more in the prospective future than in the past. in all these hills that have seen the Indian disappear when the white man came.

But, dear reader, it is now time to go home, and our vacation is coming to an end. At ten o'clock, Monday morning, the whistle of the "Chicago" boat announces to us that she is at the dock, waiting for her passengers, and we bid farewell to our new acquaintances, and embark. "Grandpa" Dadant, who is to stay till the end of September, accompanies us to the boat. In another hour we pass through the Ship Canal, and are afloat on the blue waters of Lake Michigan. We give you herewith a view of one of the many sights we encounter—a tug drawing three sailships loaded with lumber, bound for some southern port. This view may be familiar to many of our Chicago friends, but it will surely interest our prairie bee-keepers, who have no occasion to visit the lakes.

On the second day of our trip we had a little storm, just enough to give our ladies an idea of seasickness, and its pleasures (?); but this was soon over, and gave them just that much more appetite for a hearty supper in a Chicago restaurant.

When we arrive in Chicago, the romance is at an end. There is nothing left but noise and bustle, smoke and dust. No, no, don't talk to me of Chicago! We hurry home as soon as we can, barely taking time to pay a short visit to our worthy friend, Mr. York, the kindly editor of the American Bee Journal. In a few hours, through smoke and dust, we are again at home, resuming the daily duties of life.

Hancock Co., Ill.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

Convention Proceedings.

Report of The Texas Bee-Keepers' Convention.

BY LOUIS SCHOLL, SEC.

THE seventh annual meeting of Central Texas Bee-Keepers' Association was held at College Station, Tex., July 22 to 26, 1901. It was really a joint meeting of the Central Texas, North Texas or Texas State, and South Texas Bee-Keepers' Associations. The three were consolidated into one, viz: "The Texas Bee-Keepers' Association," with new officers elected, and new constitution and by-laws adopted.

The meeting, in general session assembled, was called to order by Pres. O. P. Hyde, of the Central Texas Association, July 24, at 8 a.m., with Pres. Stachelhausen, of the South Texas, and J. M. Hagood representing the North Texas Association, in the chairs; Secretary E. J. Atchley, of the South Texas, and Sec.-Treas. Louis Scholl of the Central Texas, at the desk. Pres. Hyde spoke briefly on the honey-bee, after which Mr. Atchley offered prayer.

The presidents next made their reports, followed by that of the secretaries, each giving an account of the standing of their respective organizations. Next, the election of officers of the Central Texas Association ensued, and resulted in electing, for the ensuing year, J. B. Salyer, president; H. H. Hyde, vice-president; and Louis Scholl re-elected Secretary-Treasurer.

The call for new members was ordered postponed, as a committee appointed by the chairman, on constitution and by-laws, was to make its report at the afternoon session. This committee consisted of Louis Scholl, H. H. Hyde, and F. L. Aten. Then the regular subjects on the program were taken up, E. J. Atchley speaking on

BEE-KEEPING FOR FARMERS.

He hardly knew whether to encourage farmers to keep bees or not. He mentioned some of the things he had seen at a neighbor's, who was a good farmer, trying to keep bees, and making blunders. If they would only keep a few colonies, and produce only enough honey for their own use use and table, it would be all right. When keeping more, and during an extra-good year, they have a surplus, which they rush to a town, lump it off for any old price, and it being mostly honey of an inferior quality, besides their not being informed in regard to the price of honey and the condition of the market, never reading a bee-journal, they run down the price of honey, and are ruinous to the experienced bee-keeper, who is in it to earn his bread and butter; therefore, Mr. Atchley said, it should be discouraged.

J. M. Hagood is in a strictly farming district and is a a farmer. He said that the *farmers* ought to encourage the bee-keepers to keep bees for the good purpose of fertilizing the flowers. He has his home-market and sells most of his honey there, so the effect of the farmers' ignorance and inferior honey, containing old, dark combs with pollen and such, has ruined his market and lowered the price.

G. F. Davidson moved that we invite Prof. Mally, State entomologist at the A. and M. College, to speak before the bee-keepers at the afternoon session, in regard to assistance from the bee-keepers in going before the next special session of the legislature in August, asking for an appro-

HOME AND APIARY OF J. W. ADAMS, OF MONTAGUE CO., TEX.—(See page 612.)

piation sufficient to help cover the costs of establishing a department for the study of bee-keeping, and the location of an experimental apiary on the grounds. After some discussion concerning the great need and usefulness of such an establishment, and the great good that could be accomplished, the motion was unanimously carried, and a special committee appointed, composed of H. H. Hyde, G. F. Davidson and R. C. Knowles, to invite Prof. Mally to appear before the bee-keepers. Another committee to assist Prof. Mally, and to go to Austin (Texas) before the legislature, was appointed, viz: G. F. Davidson, Louis Scholl, J. M. Hagood, and E. J. Atchley.

The regular subject under discussion was then resumed.

Z. S. Weaver said that bee-keeping must be followed altogether as a business. He does not encourage farmers to keep bees, but how many would be here now as bee-keepers if not started on their farms? It just depends whether the bees or the farm is the thing one should follow, and of course the one not the best paying is turned loose. Some keep bees as a side-issue, become enthusiastic and succeed, while others fail. If the farmers keep a few colonies of bees for their own use it is all right; otherwise it is not.

O. P. Hyde makes a whole business out of bee-keeping and keeps bees for the dollars and cents there is in it; he has no objections at all to farmers keeping bees, for if he had 100,000 pounds of honey at his home, not 1000 pounds of it would be sold there, as all of his honey is shipped to markets in North Texas. Just let farmers keeping bees go on, and the matter will adjust itself some way in the future.

To this Mr. Atchley objected, as new ones coming in all the time the matter could not adjust itself, but must be done by the experienced bee-keepers discouraging the kind who won't succeed.

There were many who gave their opinions in regard to this matter. Some discouraged farm bee-keeping, while others proclaimed it all right. Some of our greatest apiarists started on the farm. But to keep bees, and a farm, too, was not deemed practicable; that either one should be followed as a profession and not divide one's attention. Either be a bee-keeper or a farmer; they can not be made to harmonize, as the bees need one's whole attention to make them successful, and either the farm or the bees must be neglected some time, especially in the spring. At the time the bees need attention the farm needs it; and as nobody can be hired to attend to a business as one himself would, something will be neglected. And what is the use of only half attending to each, instead of following the one most suitable? There are many sections most excellent for bees but not for farms; others just the reverse. Then, again, there are men more fit for one than the other. This ought to govern as to which line should be followed.

The discussion ended, that if farmer bee-keepers would keep bees in up-to-date ways, produce their honey by the latest methods, putting it up for market rightly, and keep informed in regard to the market price of honey, by reading the bee papers and books to keep up with the times, there will be no harm done. So it will be the duty of the more experienced to teach them all this. Encourage such as will succeed and will try to make a success at it. But the others that can't be taught, won't read a bee-paper, won't learn, and come in with their inferior stuff, to lump it off at any old price, should be discouraged in any way possible. Bees really belong on the farm as well as poultry, hogs, cows, and such, and should be kept, but rightly kept.

PRODUCTION OF CHUNK COMB HONEY.

This was next taken up, on which M. M. Faust gave his method of production, and disposing thereof. He wants the strongest colonies for producing all kinds of honey, but more for bulk comb honey. He lets them get strong and gives them more room, by adding half-depth supers with shallow frames containing foundation starters one-half inch wide. If the bees are slow to go up, he puts on another half-depth super, putting up some frames of brood from the brood-chamber below, and putting the shallow frames in their stead, until well started, when all is readjusted. He used to produce about one-half extracted and one-half of bulk comb, but the past season he has had to buy extracted honey to fill up his comb-honey cans. By giving all frames containing foundation he has had some trouble by the queens depositing eggs in the supers.

O. P. Hyde followed with a good paper on this same subject. In its different phases, this subject would naturally divide itself into these three parts, viz.:

1. How to produce bulk comb honey.

2. How much more bulk comb can be produced than one-pound sections?

3. Why should we produce bulk comb honey?

On the first part, have all your bees in 10-frame dovetailed hives of standard size; Italian bees, and rousing colonies. Then when the flow begins, he puts on one "Ideal" or 5¾-inch-deep super with 5⅜-inch-deep frames filled with full sheets of extra-thin foundation. By using full sheets of this foundation the bees enter the super at once, and it will not be detected in the honey. When the first super is about half full, another is put under it, and so he keeps on tiering-up. He gives plenty of room and sometimes has as many as four or five supers on his strongest colonies.

The above size of frame is preferred, as when one is full, it will just make a complete layer in the five-gallon eight-inch screw-top 60-pound cans, when cut in two in the middle. The 4¼-inch frames are too shallow, requiring strips of comb to be cut to fill up the space.

The advantage of shallow frames over full-depth frames is that more capped honey can be obtained.

Secondly, he asserts that twice as much bulk-comb can be produced as one-pound sections, believing that he can prove it. The bees enter open frames more quickly, work harder, and almost fill two supers as quickly as one section super. Also, the advantage of the extra amount of extracted honey that goes in at comb-honey rate.

Thirdly, the keeping of bees from the dollar-and-cent stand-point, wanting all the honest dollars that are in it, the bee-keeper must produce the kind of honey that sells the quickest and gives the best returns. If his customers were wholly or mostly for section honey, he would be forced to produce that kind; if bulk-comb, then that kind; if extracted, then it would be extracted. As it is the demand that keeps us in the market, we must produce the kind there is a demand for.

He was once an advocate of section honey—the kind that has a thin strip of wood around it, thinking it so nice, and it could be sent to market just as the bees made it. He is still an advocate of comb honey, but the kind that is cut from the frames, placed in cans and that delicious, sweet extracted poured all over it. Then you have not only extracted on the inside, but on the outside of the comb also, which makes it more desirable to the taste. When he was for sections, the Northern brothers said he was a practical apiarist, but now he is for bulk-comb, and they say he has retrograded 30 years, which, however, does not matter with him, as he is not for popularity, but for the dollar.

He also gave some figures and some idea of the immense quantity of such bulk comb honey that is in demand over only a small amount of other kinds.

A question was asked in regard to keeping it over winter, whether it would granulate, and if it could be taken out in layers then. The answer was that this was the only drawback that bulk comb honey had, but the demand for it is so great that it can not be supplied, hence none is kept over winter to become granulated.

Mr. Davidson seriously criticized Mr. Hyde's paper, saying that he did not want it to be understood that the production of section honey should be assailed in any way, and that the production of sections should not be discouraged; besides, the production of fine section honey stands above all others, and is the highest art of producing honey. He intimated that the reason why others were not producing section honey was because they did not know how; and that the day will come when more section honey will be produced than bulk comb, as it is the more wealthy people, anyway, that eat the most honey. All three grades are good, but fine section honey can not be procured during slow flows, as it takes fast, rushing flows, and a locality with such. There is just as much in dollars and cents to be made with section honey as bulk-comb, and the former should be encouraged. O. P. Hyde ended the discussion by saying that he was not at all discouraging the production of section honey; that *he* is willing to produce only what is in greatest demand, and gives the greatest profits. He is not pushing this, but it is his customers that choose it, or demand it of him.

Before adjournment, H. H. Hyde moved to appoint a committee of three to judge the bee-keepers' exhibits, and these were named: D. C. Milam, W. O. Victor, and Mrs. C. R. West.

Adjourned for dinner, until 2:00 p.m.

(Continued next week.)

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Combs Melting Down—Swarming Mix-Up—Transferring, Etc.

Replying to J. A. Geralds (page 567), I think he has made the right guess in concluding that the combs melted down in his hives because the dense growth surrounding them prevented the free passage of air. I never yet had combs melt down when hives stood in the full blaze of the sun, but one year I had a few cases where the hives were in dense shade all day long. A dense growth of tall corn was on one side of them, and close bushes on the other.

In reply to S. B. Smith (page 573), he has no doubt made a close guess at what transpired. Of course it can only be a guess, but I should put my full guess in this way: The young queen in No. 11 went out on her wedding-trip, accompanied by enough bees to make the small swarm that was hived; the remaining bees of No. 11 then walked over to No. 15, thus making No. 15 of extraordinary strength. An item that tends to confirm this opinion is the fact that bees were seen going on the alighting-board from No. 11 to No. 15, and it is likely that close observation would show the bees doing that same thing two weeks later. The bees on coming from the field would not go direct to No. 15, but would enter No. 11, and then crawl across until that generation died off; at least a certain number of the bees would go through that performance.

T. F. Weaver (page 574), would like to know whether his plan of transferring would work all right in a poor honey-year. It would likely be all right except the danger of robbing, for if he should do exactly as appears from his description at any time when honey was not freely coming in, he might have a lively time of it.

Dr. Peiro (page 574), lays a very heavy burden on that poor little crack under the cover. You say, Doctor, that after seeing that crack your "conclusions were clear and rapid." Rapid, very likely, but it is somewhat doubtful about the clearness. A reasonably strong colony will not only guard a full-sized entrance in the ordinary place, but also an entrance equally large right under the cover. For a number of years, following the example of Adam Grimm, I allowed, besides the regular entrance, an opening over the frames at the back end of the hive 15 inches by ¼ to ⅜, and there was no trouble about the bees protecting themselves. If at a time when robbers were bad an opening should suddenly be made under the cover, there might be a little danger of trouble, but if the opening were made in a time of plenty, there should be no trouble; and there should be no danger either in scarcity or plenty if the crack were made by the gradual warping of a cover. C. C. MILLER.

Perhaps Larvae of the Bee-Moth—Chilling Brood.

1. On Aug. 3 I made the first "drive" in transferring a colony to a new hive, supplying them with full sheets of foundation, and after they started storing well I gave them an Italian queen. I have fed them lightly by putting a small dish of granulated sugar syrup under the frames at night, and removing the empty dish in the morning. At present they have six Danz. frames nearly filled, and two more started, principally from sweet clover, but they are destroying brood. In the morning there will be young bees sometimes to the number of 30 or 40 scattered around the entrance, ranging in color from clear white through all the shades and markings of brown, up to those which will be struggling to free themselves from the dewy entrance-board. What is the cause and cure?

2. Is there danger of chilling the brood by removing it from the hive in the morning or evening of cool days at this time of year?

I can find nothing on these subjects in my books.

ILLINOIS.

ANSWERS.—1. Looks like worms, or (begging Prof. Cook's pardon) the larvæ of the bee-moth. They work their galleries through the cappings, and the larvæ of one kind work at the bottom of the cell. When very bad, the young bees will be dragged out as you describe. The remedy is to get Italian blood. Possibly, however, a fuller knowledge of the case might suggest some other trouble.

2. No danger when it is warm enough for bees to fly, unless the brood is kept out an unreasonable length of time. Ordinarily there is no need to have a frame of brood in the hands more than a minute at a time.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

NO BROOD BUT EGGS PRESENT DURING DROUTH.

Dr. Miller's experience in the great July drouth—no brood either sealed or unsealed, but *eggs always present*—adds a crumb to a pertinent and interesting bee-fact which we have to figure with. Page 519.

PURITY IN MARKINGS OF PARENTS.

It sounds to me as if "Texas," on page 520, was after strictly three-banded queens and drones. Won't get em. Doubtful if they could be called any purer than the present ones if he did. He should remember that nature often differentiates the sexes remarkably. Sometimes it even occurs that the male is a winged creature and the female a crawling worm. Wild birds are pure, yet often the male is brilliant in colors while the female is plain looking.

"BURNING ONE'S OWN SMOKE."

Prof. Cook, on page 521, passes to us some important teaching clad in very pungent words—let us burn all our own smoke. Won't make quite so much smoke if we have the job of burning it in view. And what rent have we paid for our neighbor's eyes and lungs that we should warehouse our smoke in them? Ahem! not forgetting that what we try to call entertaining conversation is sometimes the worst smoke we make.

MAKING ROOMS MOUSE-PROOF.

Mr. Foote is on the right track about mouse-proof rooms. Mice first get into the spaces between walls. From that vantage ground they see the Promised Land through cracks, and lay plans to get there—would not so often dodge through doors had they not their minds made up previously that it was a good place to go. And usually, as we know, some little defect in plaster or base-board proves capable of enlargement, and in they come. Flooring plump to the outside of the building, and studs set on a narrow plank, would keep them out of the wall-spaces to start with, and so mainly prevent after consequences. Page 523.

WORKING HIS "STANDS."

How does he work his stands, Dear Boss? Why, he makes them *lift*. And if he makes them lift about 100 pounds more in August than they do in May, is it not all right? Virgil is praised because he called a bee-hive twelve different names; and ever since I read Virgil (if not before) I have had a leaning in that direction—toward an elastic application of terms. True, lack of precision is a bad thing; but it is also a bad thing to have our vocabulary too limited—too lean and bald. May we not all be poets to the small extent of having a little versatility to our speech? Let us not groan nor scold even if one comrade does catch a nice *string* while another catches a nice lot of fish—and another catches a dinner, and another catches a cure for sore eyes. Page 530.

THE LEGISLATION OF THE AUSTRALIANS.

Those Australians are continually solving things the rest of the world failed to solve—or failed to try to solve. We cannot very well legislate the apiarian pig to his own end of the territory trough; but we can give him a "bar-sinister" by refusing him membership—and see whether his hide is so tough that he cares nothing for a blow of that kind. Alas, American societies seem rather too nebulous to hit anybody, even to the small extent of refusing membership. Membership is anybody that happens to come to a meeting—and so few that the proposition to bar people out would seem gro-

tesque—last rose of summer forbidding the pips to bloom. Page 527.

WRITING UP THINGS WHILE FRESH IN MIND.

I also incline to "Amen" the plan of writing up things while they are fresh in the mind. Writer needs the help most even if it was a case of writer versus reader, which it isn't exactly. Reader's ears have been dug open by his experiences, and will have wax in them ten months hence. Also, if the would-be writer forgets a thing before it gets in print there is no back number to go to for it. Page 531.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

THE TABLE.

"Ah! but wasn't that an elegant table?" That was my daughter's query. We had just broken doughnuts with a good friend—one of those splendid women who is ever dispensing cheer and comfort. And well did she ask. First, the linen was so entirely immaculate and of such proportions that it just seemed made for that special table. Each marginal inch seemed impressed by gravity just as strongly as every other, for none had reached down nearer the floor than had any other. And the table *per se*—what a piece of art! The plates with accompaniments, each was like a well arranged bouquet. Nothing was crowded, yet there was no wide desert area, and we were all glad that room was found for a single lovely spray of wild roses. These were sweet as they were chaste and beautiful. The whole combination was so pleasing to the eye, that one could be content to sit and gaze.

Of course we all like good things to eat. Do we all appreciate as we may, and ought, the utility of beauty about and on the table?

I know a dear old farmer who would never sit at the table, nor would any of the children, without collar, clean coat and necktie. The children grew up simply to respect and copy that parent. The mother rarely omitted the flowers. She appreciated the courtesy of the loving, thoughtful husband. Flowers of discord could never grow about that table. Other better flowers had preoccupied the territory.

Do we all know and realize what a prominent part appearance—inviting viands—play in the work of digestion? Let the table look well, the eatables offered savory, so that one loves to sit and linger, because, simply, of the environs, and the digestive organism laughs at its work, and feels it no burden. Ought we not to make the dining-room the very pleasantest in the home? There we are all together. There we sit long—most of us ought to sit much longer. For reasons of health. I would have the room, the table, the good things on it, the very atmosphere, all as elegant and delightful as time and means would permit. We can none of us afford ever to be cross, surly, petulant—certainly not in the home, assuredly not at the dear home table. There is no lubricant that so nicely oils the wheels of digestion and assimilation as does good cheer. Nothing so adorns the home table like never-failing courtesy, cheerful demeanor, sweetest temper. It is an undoubted fact that nothing breeds incurable dyspepsia like crabbedness. Nothing shuts it out from the home and life more surely than an atmosphere of purest love and harmony.

GATHERING AT THE MEAL.

A day or two since, I was entertained at two of the most lovely rural homes in California. That is saying much, for no urban homes can surpass in comfort and elegance some of the ranch homes of this favored region. At one I was only present at the dinner hour. It was a family which sounded no discord in that lovely home. As we gathered, all were present and sat at once. It was easy to see that this was their wont. Only well-drilled soldiers are always in line. One can see so quickly in the preparation for meals whether they are in habit of unison, or whether they struggle along, with no thought of one another.

In the other home, equally elegant, it was not so. I was present at two meals, and at both each came as convenience set the pace. It was obvious that this was custom. I sorrowed for all. In my home, and at my table, I would as soon the steak, the coffee, or the bread, were omitted as to be deprived of son or daughter, and the whole table would in no wise compensate for the absent, or lack of the good wife.

REGULARITY.

This gathering at the table marks one phase of life that counts for much in our success or failure. Are we regular in our habits? Do we accustom ourselves to act promptly, and on time? Even in our physical functions this contributes immensely towards health and vigor. In the mental activities it means much more fruitage. To rise, to eat, to retire, etc., at irregular times, means enfeebled health and poor work. To study haphazard, means poor mental work, and a shabby brain. This is one of the good things about college life. There lunch must be exactly on time. Often this will suggest and secure regularity in all the life. Then organic wheels all turn easily—no friction anywhere. Each organ does its best, and most, and all the time. We know not why, but the body works much more energetically when it is always in its special grooves. I think most of the great geniuses have had habits of wonderful regularity. Men like Gladstone could not have so moved the world had any other course been chosen.

CARPENTERIA.

The ride on the "Espe" shore line from Ventura to Santa Barbara is charming. I took it to-night by moonlight. On one side the tall hills—beginnings of the Sierra Madre—hug close as if to shut all danger away. On the other, the breakers keep pushing up as if to hold us on the narrow rock ledge. With the moonlight to gild all, it seems a fairy scene. Carpenteria—pronounced Car-pen-te-*ree*-a—is a delightful little burg about midway on this line. The word is said to come from the Spanish for "carpenter." There are several explanations for its adoption. I like this one: The red-winged flicker or yellow-hammer like the golden-winged of the East, except red replaces gold on the wing-feathers, is thick here, and is a winged carpenter, as all over California it pecks into buildings. One church is surely very "holey" because of this bird's desire of entrance.

If we can trust to appearances at Carpenteria the bird is a Baptist. The worshippers there have been compelled to tin the church steeple, to protect from the flickers. The bird is also a sap-sucker in California. He taps the walnuts, as does the real, genuine sap-suckers the various orchard and forest trees here and elsewhere. He is also unlike his close relative East—a fruit lover. No wonder any bird that once tasted California fruits would surely change its food habits, and become frugivorous on the spot.

Like the other flicker, if we take this bird's eggs away daily, she will lay as many as 30.

SICK PLANTS.

Do our plants talk to us? If not, let us get acquainted with them, and then they will. I love the poet Bryant. Isn't he called "the Poet of Nature?" He loved the great, spreading trees, with their grace and grateful shade. The brooks sang for him, and to him; and trees, brooks, hills, mountains, sky and air, had their stories to which his ears gave fine attention. He wrote the great "Thanatopsis." I read it so much to my children, that they learned the poem, and to-day my daughter loves Bryant most of all our poets. That he had a listening ear for Nature's finest thoughts appears from the exordium of that masterpiece:

"To him who in the love of Nature holds communion with her forms,
She speaks a various language."

The little child wakes before the day, and awakens our keenest anxieties by his little "I'm sick." As Day draws her curtains, we peer down to the little trundle-bed, and we see the pallor that drove away the pink and the rose; and the "I'm sick" is spoken just as clearly.

My wife is anxious. The great, splendid sword-fern which is the glory of our parlor, tells her it is sick. It speaks in the yellowing tint of the leaves. And what shall we do? As in all plant sickness, so now. First, are there any insects? Does grub or caterpillar sap the roots, or scale or aphid the leaves? My wife is too wary to make that probable. We examine very carefully and find nothing.

Next the water. Has there been too little or too much? Wife has learned to guage the water. We decide the water has been right.

Then we add nitrogen, sodium nitrate or Chili saltpeter is excellent, and, all at once, as by magic, new green appears, life brightens, and our plant fairly sings, "I'm well again!"

Plants, like children, must be generously fed.

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GENERAL ITEMS

Bees Did Well.

My bees have done very well this season, and not much swarming. From one colony I took 228 filled sections of honey. We get very little dark honey.

JOHN GERTHOFFER.
Onondaga Co., N. Y., Sept. 9.

From Two Washington Girls.

We have done so well in the bee-business this summer that we thought we would write again. We are going to send a picture of our apiary this fall.

By buying queens and comb foundation we increased from 7 colonies to 21. They have filled 350 sections. We ran out of sections, and so we put on empty supers and boxes. They have them nearly full of honey now. We get 16 cents per section, and could sell all we could produce at that price, even if we had 100 colonies, and that is what we are going to have before we quit. We wish you could see some of our honey. It is white, and of the finest quality.

EDNA AND ALICE YOUNT.
Spokane Co., Wash., Aug. 31.

The "Jouncer"—Queen-Excluders.

Permit me to join Mr. Davenport in commending Mr. Martin's "jouncer." Noticing reference to it in a recent number of the American Bee Journal, I thought it worth a trial in removing bees from cases of comb honey. The first attempt was so satisfactory that I thought aloud that "that little bit of information was worth several years' subscription to the American Bee Journal, to any bee-keeper whose time is of value." It does not need a heavy jar, but a quick, sharp one, such as may be given by a little practice.

If Mr. Martin's cloth tray could be placed so as to be jounced with the super or case, it seems to me that there would be practically no killing of bees. I use a little smoke before removing the case from the hive; a little

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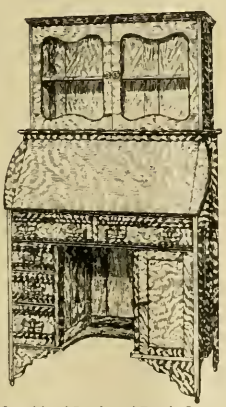

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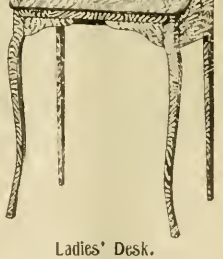

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Alfalfa Honey

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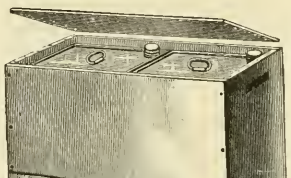

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I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more marked flavor, according to my taste. C. C. MILLER.

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Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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more at the top when on the jouncer, so as to drive the bees down, then by giving the case two or three quick jars, the bees are nearly all out, and one is saved hours of labor by this simple operation. Mr. Martin, thanks!

There is one other matter which is of more or less importance to bee-keepers, and in regard to which there seems to be a difference of opinion, that I would like to refer to. It is that of queen-excluders over the brood-frames. I have never used one, neither for comb nor extracted honey. Sometimes the queen has gone into the surplus chamber when run for extracting purposes, but very seldom into a section-case, and not often in the super. This year, after removing a large number of cases, I have found that the queen had occupied but two sections of the hundreds taken from the hives.

I attribute this freedom from intrusion of the queen to the use of thick top-bars, carefully spaced, so that only a bee-space is left between any two of them. I may be mistaken, but if my impression is correct, what a saving of time, money, and trouble puttering with zinc excluders.

By the way, say to Mr. Baker (page 546) to keep tally of the sections from the colony referred to. I have some long-tongued bees, and shall strive to be at least a "close second" when the season closes.

Kankakee Co., Ill. WM. M. WHITNEY.

A California Report.

I started the season of 1901, in March, with 240 colonies, increased to 270 colonies, and have taken off 51,700 pounds of extracted honey, besides leaving the supers full.

J. A. ODERLIN.

Orange Co., Calif., Sept. 12.

Fairly Good Season.

The season was good until the drouth set in in July, when the excessive hot weather cut the linden flow short. I secured 4000 pounds of mostly extracted honey, from 61 colonies, spring count, and increased to 110, which are in good shape for winter. All of my honey is sold in the home market. J. M. DOUDNA.

Douglas Co., Minn., Sept. 13.

The Bee in California.

Bee-keeping in parts of California is not only a success but a real pleasure. The mild, temperate climate does not necessitate the careful housing of the bees, nor is it necessary to find food for them during the winter season. The colony is placed in a convenient spot under some tree in the fence-corner. They have shade, and also a wind-break. Here they gather the nectar which we read Jupiter sips.

What men eat has somewhat to do with their disposition, and those who eat honey are blest with the kindliest disposition. Therefore, if more honey was produced, and more eaten, the race would reap a rich benefit. This is no vague theory it is a scientific truth.

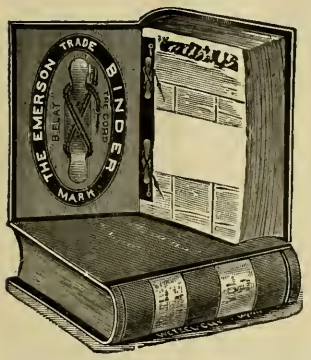
The honey taken late in spring is oftentimes of the very finest quality. The locust blossom has given a generous contribution, and this is one of the finest honey-producers.

The honey taken in the fall is enriched by the alfalfa blossoms, and also from the blossoms of the mullen-weed. This weed does not grow east of the Rockies. It also keeps close to the ground, and is of a very light-blue color. The honey-gatherers seek out its tiny blossoms with the same diligence that the doves seek out its seed. It grows abundantly on the pasture-lands.

Honey retails for 10 cents a pound, or two dollars a box. These boxes contain about 30 pounds when full. They do not have the frames, and the honey is not in a condition to retail as is the case with that made in frames.

Among the various other sources from which the California rancher may look for an income, he should give attention to bee-culture. He knows and keenly realizes that he can not depend any longer upon wheat at the low price of recent years, and, while he is looking after other sources from which to receive an income, he may do well to remember the bee.

The Emerson Binder



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lie has but to give them a small amount of attention, and at the proper time take what they have stored up for his well-being. It is an industry that needs to be understood in order that the prejudice in the minds of those who are ready to exclaim, "How hot its little feet are, begorrah!" be removed. There is no more interesting study than one may find right in this industry. With the present improved methods of bee-keeping, the highly heated "pedal extremities" need not inconvenience any one.

There is in this land of fruit and flowers—this land of fair climate—a large future for the bee. It should be the very paradise (as it is hoped it may be) of the bee. It will also be a great help to the debt-burdened, hard-working farmer. "RANCHER."

California, Aug. 5.

Something from Arkansas.

I have been a subscriber of the American Bee Journal for nearly a year, and am indeed impressed with the fact that it is peculiarly in the interest of the apiarist.

While Arkansas may not be as good a bee-State as some others, yet with the proper care and interest in the work, honey can be relied upon as an industry sufficiently paying to encourage any one to embark in the business here.

The moth seems to be the pest to the apiaries of Arkansas, as is also the borer to the orchard. Part of my hives are the old-fashioned box-hive, and part are movable-frame hives, mostly the old "Kidder" hive; both do well, but I have no doubt that the frame hive is much the better. However, many people who have tried the frame hives on a small scale, have gone back to the box-hive again, declaring the former to be a failure. This, of course, is because they gave their bees no attention.

This is purely a cotton country, and but little attention is paid to any other industry. I have for several years been studying and reading about the bee, and intend to join the National Bee-Keepers' Association, and hope to be of some use to the bee-industry of this country. A. E. STONE.

Yell Co., Ark., Aug. 31.

Treating Hive-Covers—Other Matters.

Mr. E. H. Schaetlle, in Gleanings in Bee-Culture, proposes to boil hive-covers in linseed oil to prevent warping. This may be a very good way for water-tight hives. My way has been to paint hives and covers inside with raw linseed oil. Oil makes it easy to scrape and clean hives out, as well as to protect the wood. For the outside, two coats of pure white lead mixed with raw linseed oil. White lead is a cool paint. I have some red-wood hives ten years old thus treated, that are almost as good as new, while hives that were not painted have mostly gone to wreck.

But nothing suits me like the dovetailed hive and gable cover for moving, as well as for the dry climate of central and southern California.

For bad cases of robbing I use the following plan: Remove the covers of the hives being robbed, and put on an empty frame covered with wire-cloth, such as is used in moving bees. Then brush a little coal-oil on the entrance, and a large part of the robbers will be attracted to the top of the hive. This also affords the little "soldiers" air.

The honey-flow from the lima beans of Ventura county has been very light—only enough to put the bees in good condition for winter. We moved 200 colonies 50 miles for the beans, at the close of sage-bloom.

The honey crop near Newhall was a good average one, but not so close to the coast, as a cool fog lasted while the sage was in bloom. I was told that San Diego county would not have honey enough for its own use.

E. ARCHIBALD.

Ventura Co., Calif., Aug. 24.

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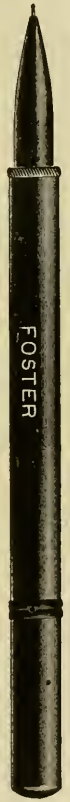

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Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

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Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

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INLAND POULTRY JOURNAL, Indianapolis, Ind

20Dtf Please mention the Bee Journal.

Size of Queen-Rearing Nuclei.

Efforts have been made to use as small a number of bees as possible in queen-rearing nuclei from the time the young queen emerges until she is laying, but it is possible the waste of a larger number of bees is not so great as might be supposed. Dr. Miller says in Gleanings in Bee-Culture:

The greatest part of the cost of rearing a queen has been considered the time occupied in the nucleus to get her to laying; and, like others, I have made some effort toward seeing how few bees might be successfully used in a nucleus. But is not the cost of nuclei magnified? If I am not mistaken, a colony with a virgin queen will work just as vigorously as one with a laying queen, and a field-bee will carry just as much nectar to a nucleus as to a full colony. If that is correct, and if a cell is given at the time of removing a laying queen from a nucleus, then there will not be more than two days when the nucleus will not be in good storing condition, and when too much honey is in a nucleus a full frame can be exchanged for an empty one. Of course there will be some loss from the larger proportion of bees required to keep up the heat in a small nucleus. But I suspect that the gain from fewer bees in a nucleus is overrated.

To Prevent Swarming.

Mr. Doolittle says in Gleanings in Bee-Culture he is trying several plans, but has only one which is as yet perfect enough to give out. It is as follows:

Give lots of room, with as many bait-sections as possible, so as to discourage early swarming as much as you can. When you think you can hold them from swarming no longer, cage the queen. Now wait from 10 to 11 days, when you will shake the bees off their combs so you are sure to see every queen-cell started, and pull every cell off. Now make a hollow plug to fit one end of the cage the queen is in, and fill the hollow with candy, such as is used in shipping queens, having the plug about 1½ inches long, so the bees will be about two days in eating out the candy, and liberating the queen. This does away with all desire for swarming from that colony."

Feeding Medicated Syrup to Bees.

It is time to feed bees in the central and northern States; and if feeding has to be resorted to I would strongly urge medicating all the syrup with the naphthol-beta solution. Such a precaution becomes exceedingly necessary just now when foul and black brood have been extending their ravages in every direction. The medicated syrup will not kill the spores of either disease, but it will destroy the bacilli as soon as the spores develop into the active stage.

Into an eight-ounce bottle (half pint) empty a one-ounce package of naphthol-beta in the form of a fine white power. Pour in just enough wood or common alcohol to dissolve the powder, and fill the bottle full. This quantity of chemical in solution is just right for 140 pounds of sugar dissolved in 140 pounds of water. To mix, put 140 pounds of water in a common honey-extractor; then add sugar gradually, dipperful by dipperful, until there are about 140 pounds of sugar. While the sugar is being added, keep turning the handle of the extractor so there will be a rapid agitation and thorough mixing. After the sugar is all in, keep on turning the handle until it is all dissolved, and, last of all, pour in the naphthol-beta solution already referred to. Stir this into the mixture thoroughly by running the extractor for several minutes longer.

In handling the naphthol-beta solution, be

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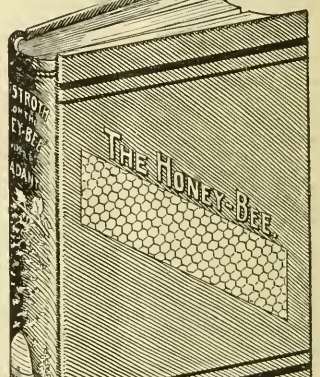
This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son.



Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

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13A26t Please mention the Bee Journal.

If You Want Hybrid Bees or Queens for strengthening up weak or queenless colonies, I will send one colony with queen for $1.00; two or more, 75c each; Queens, 25c each. H. H. PORTER,

39A2t R. R. No. 1, BARABOO, WIS.

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careful not to get it on the fingers; but after it is mixed with the syrup, it is perfectly harmless to man or bees. Naphthol-beta can be obtained for 25 cents an ounce; and at this low price no bee-keeper can afford not to take the precaution.

In making the syrup we recommend half sugar and half cold water. There is no need of heating, provided thorough stirring is used, either with a stick and tub, or, better still, in an extractor in the manner explained. We have fed a half-and-half mixture for several years; and since using it we have never had any trouble from its going back to sugar in the cells after the bees have put it into the comb. For very late feeding it may be advisable to use one part of water and two of sugar.—Gleanings in Bee-Culture.

Honey-Cakes.

It seems a good thing that fashion magazines of wide circulation should help to increase the use of honey. The following recipe is from the Delineator:

Mix thoroughly one quart of honey, ½ pound pulverized sugar, ½ pound fresh butter, juice of 2 oranges; then stir in gradually enough sifted flour to make a dough stiff enough to roll out easily. Turn out on a molding-board; beat well for a few minutes with a rolling-pin; then roll out into sheets half an inch thick; cut into round cakes, and bake in shallow buttered pans.

CONVENTION NOTICES.

Illinois.—The annual meeting of the Northern Illinois Bee-Keepers' Association will be held in the Court House in Rockford, Ill., on Tuesday and Wednesday, Oct. 15 and 16, 1901. All interested in bees are invited to attend.

Rockford, Ill. B. KENNEDY, Sec.

Utah.—There will be a meeting of the Utah Bee-Keepers' Association in the City and County Building, Salt Lake City, Utah, Oct. 5, 1901, at 10 a. m. to which all are cordially invited. Kindly inform other bee keepers and send the addresses of your neighbor bee-keepers. We also desire the address of all county bee-inspectors. A full program in the interest of the industry will be presented. Send in questions. Among other questions it is desired to consider, is a union of interest in the purchase of supplies and the disposing of bee-products at profitable rates. Yours in behalf of the bee-keepers,

E. S. LOVESY, Pres., Salt Lake City. J. B. FAGG, Sec., East Mill Creek.

100 Full Swarms Bees at $1.25 a Swarm, With good laying queen in shipping-box, no hive or combs; hive extra, $1.00. These bees are for feeding up for winter to make colonies, or to strengthen weak colonies, or may be used for requeening. Full directions given. Orders filled as received. Write for further information regarding these bees. Address,

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39Alt Mention the American Bee Journal.

Colorado Alfalfa Fields 1000 colonies of bees wanted on shares, to be placed in yards of 200 in unoccupied territory. 26 years' experience.

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SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white).....	$ .60	$1.00	$2.25	$4 00
Sweet Clover (yellow)....	.90	1.70	4.00	7.50
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White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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Wanted.

Comb and Extracted Honey. Will buy your honey no matter what quantity. Mail sample of extracted, state quality of comb honey and price expected delivered in Cincinnati. I pay promptly on receipt of goods. Refer you to Brighton German Bank, this city.

C. H. W. WEBER,

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Wanted To Buy Honey

What have you to offer and at what price?

34Atf **ED WILKINSON, Wilton, Wis.**

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Wanted Fancy White Comb Honey in no-drip cases; also Extracted Honey. State price, delivered. We pay spot cash. FRED W. MUTH & Co., Front & Walnut Sts., Cincinnati, Ohio. Reference—German National Bank, Cincinnati.

28A17t Please mention the Bee Journal.

WRITE US

If you have large or small lots of **HONEY** to sell.

State quantity, how put up, kind of honey, price expected, and, if possible, mail sample. We pay spot cash.

REFERENCE—Wisconsin National Bank.

E. R. Pahl & Co.

34Atf MILWAUKEE, WIS.

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Wanted Comb and Extracted Honey!

State price, kind and quantity.

R. A. BURNETT & CO., 199 S. Water St., CHICAGO

33Atf Please mention the Bee Journal.

Wanted—Honey.

Car Lots or otherwise; will pay highest market price, spot cash. Address, stating quantity, quality, and price desired at your station. Will send man to receive when lot is large enough to justify. THOS. C. STANLEY & SON,

31Aff FAIRFIELD, ILL.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Sept. 18.—No. 1 white comb honey is selling at 15c per pound, with occasionally a little more being obtained for fancy, that which does not grade No. 1 selling at from 13@14c, with the light amber at 12@13c; dark honey of various kinds selling at 10@11c. Extracted in moderate demand at from 5½@6½c for the various grades of white; some fancy white clover and basswood bringing 7c; light amber ranging from 5½@5¼c; dark at 5@5¼c. Beeswax firm at 28@30c. R. A. BURNETT & Co.

CINCINNATI, Aug. 10.—The honey market is rather dull on account of the warm weather. Extracted sells only to manufacturers from 5@6c; better grades alfalfa water-white from 6@7c; white clover from 8@9c. Fancy white comb honey sells from 13½@15½c.

C. H. W. WEBER.

BOSTON, Sept. 14.—Honey is coming forward in fair quantities and the demand is good, considering the warm weather we are having. Strictly fancy in cartons we quote at 16c; A No. 1, 15c; No. 1, 14@15c. Very little No. 2 being received. BLAKE, SCOTT & LEE.

ALBANY, N. Y., Sept. 19.—We quote: Fancy white comb, 16c; No. 1, 15c; mixed, 13@14c; No. 1 buckwheat or amber, 12@13c. Extracted, white, 6@7½c; light, 6½@7c; dark, 5½@6c. Beeswax, 28@29c. H. R. WRIGHT.

OMAHA, Aug. 8.—New comb honey is arriving by express in small quantities from Iowa and Colorado, and selling at $3 50 per case in a retail way. California extracted honey is being offered carlots at 4½@4½c per pound, f.o.b. California shipping-points, but we have not heard of any sales having been made thus far. The production of extracted honey seems to be quite large this year in Colorado, Utah and California. PEYCKE BROS.

NEW YORK, Sept. 10.—Comb honey is now beginning to arrive in large quantities, and, as a rule, quality is fine. The demand is good, and we quote as follows: Fancy white, 14@15c; No. 1, 13c; No. 2, 12c; and amber, 11c. No buckwheat is on the market as yet, but are expecting same within a week or so. Extracted is selling slowly, with plenty of supply, at 5@6½c, according to quality, and Southern in barrels at from 55@65c per gallon. Beeswax dull at 27c.

HILDRETH & SEGELKEN.

DES MOINES, Aug. 7.—There is very little doing here in new crop of honey. Some small lots of near-by produced comb honey are on the market and selling in a retail way at $3.50 to $3.75 per case. We do not look for much trade in this line before Sept. 1. Our market does not consume a great deal of extracted honey.

PEYCKE BROS. & CHANEY.

DETROIT, Aug. 12.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.

M. H. HUNT & SON.

BUFFALO, Aug. 10.—Quite a good demand for fancy honey, 16@17c, and lower grades, 12@14c; old neglected. Advise moderate shipments only of new as yet. BATTERSON & Co.

SAN FRANCISCO, Sept. 4.—White comb, 10@12 cents; amber, 7@9c; dark, 6@7½ cents. Extracted, white, 5½@—; light amber, 4½@—; amber, 4@—. Beeswax, 26@28c.

Arrivals and spot offerings are of rather moderate volume, but there is as much or more on market than can be conveniently or advantageously placed. To secure liberal wholesale custom, prices would have to be shaded in favor of buyers. In a small way for especially desirable lots slightly higher figures than are quoted are realized.

KANSAS CITY, Sept. 14.—Up to the present time only small lots of new comb honey have been on the market, and these met with ready sale on the basis of 15@16c per pound for fancy white. For next week heavier receipts are expected and quotations are issued at $3.10@3.25 per case for large lots, which would be equal to about 14@14½c; the demand being quite brisk, a firm market is anticipated. Inquiries for extracted are a little more numerous, but large buyers still seem to have their ideas too low. In a small way 5½@6c is quotable.

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—BY—
PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book published to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipped, or his library complete, without THE BEE-KEEPERS' GUIDE.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

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Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let every body try for it. Will YOU have one?

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Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

Langstroth on the Honey-Bee—Revised,
The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

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RED CLOVER QUEENS

BLACK ROCK, N. Y., Sept. 3, 1901.

FRIEND ERNEST:—I will try and tell you what you want to know about that queen. I got her of you in 1899 as a premium with GLEANINGS. I never saw a small colony of bees build up as that one did. In the spring of 1900 they came out in fine shape, wintered perfect. I raised them up in May and gave them 8 frames more so the queen would not want for room. I never saw such a colony of bees as they were in June, and they were actually storing honey when other bees in my yard were starving. No! they were not robbing. I never saw those two best colonies of mine trying to rob. THEY CERTAINLY WORK ON RED CLOVER. This is no guesswork, as I have seen them. As you know, the past two seasons have been very poor, and what honey my bees did get in 1900 candied soon after cold weather set in. I packed this colony in a chaff hive and left them out, thinking that such a strong colony would winter perfect. The snow came on the middle of November, and those poor bees never a fly until the last of March or the first of April. When warm weather at last came I thought they were dead, as they did not seem to be flying much, so I did not pay any attention to them until in June. I noticed they were working a little, so I opened up the hive and found them in the upper story. I took the lower story out and left them in the one body. The queen was laying nicely, and I thought they would make a good colony to winter. Along the last of July I noticed that they needed more room. I gave them a super, 24 boxes, and in a few days they had it full. They have made 72 boxes of as nice honey as you ever saw, and are drawing out some starters now, Sept. 2.

Very truly yours, GEO. B. HOWE.

Prices of Red Clover Queens.

Gleanings in Bee-Culture 1 year and Untested Queen	$2.00
" " " Tested Queen	4.00
" " " Select Tested Queen	6.00

If you want something good you can not do better than to order one of these queens. All orders are filled promptly. No extra postage on these to foreign countries.

THE A. I. ROOT CO., Medina, Ohio.
(U. S. A.)

☞ **GEORGE W. YORK & CO.** 144 & 146 Erie Street, CHICAGO ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO
Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., OCTOBER 3, 1901.

FORTY-FIRST YEAR
No. 40.

WEEKLY

APIARY OF LESLIE E. HAZEN.—(See page 628.)

F. J. DOWLING, PHILA.

THE AMERICAN BEE JOURNAL

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EDITORIAL STAFF.

GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

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National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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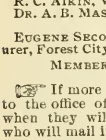
A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

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Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

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Or, Manual of the Apiary,

—BY—

PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1 25 postpaid.

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The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

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How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

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☞Please allow about two weeks for your knife order to be filled.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., OCTOBER 3, 1901. No. 40.

Editorial.

A Bee-Keepers' Paradise is what Editor Root calls Uvalde Co., Tex., with some other counties in that State and New Mexico. But after having raised the expectations of prospecting bee-keepers to the highest notch, he lets them drop with a dull thud by saying that Uvalde county is "fearfully overstocked."

The Buffalo Convention Report we expect to begin publishing soon. There were no papers read except at the joint meeting of the pomologists and bee-keepers on the last evening. So, practically, the whole of the report will be discussions of questions. This should make it very interesting reading.

Hive-Covers.—Saw-kerfs on the underside of hive-covers have been successfully used to prevent warping, but Editor Root says that after a thorough trial of such covers they have been abandoned, because in dry climates these saw-cuts favor checking and splitting entirely too much. Even in northern Ohio they give a good deal of trouble.

Need of Laws on Bee-Diseases.—On page 631, Hon. J. M. Hambaugh, bee-inspector for San Diego Co., Calif., offers some highly important suggestions that should have earnest consideration.

The careful, up-to-date bee-keeper deserves to be fully protected from his careless, slipshod neighbors whose bees are more likely to contract deadly disease, and when once contracted is harbored and permitted to contaminate surrounding healthy apiaries. Surely, there should be stringent laws in every State to compel every bee-keeper to aid in the discovery of bee-diseases, and when found aid in its complete eradication. This is as much in the interest of infected apiaries as healthy ones.

Mr. Hambaugh also calls attention to the necessity of issuing a certificate from a lawfully appointed inspector, showing the healthy condition of every colony proposed to be removed from one locality to another. This certainly would be a wise provision. It would help in many instances, no doubt, to prevent carrying contagion from place to place.

Mr. J. M. Rankin, Michigan's alert inspector, has just had an experience in the direction indicated. He examined a lot of hives, combs, etc., belonging to a bee-keeper at Evart, Mich., and finding ample evidences of foul brood, he officially ordered the bee-keeper to destroy the disease-infected combs, etc. Instead of obeying the officer of the law, he loaded the stuff on a car and shipped it to Clyde, Ill., near Chicago, where it will likely become a menace to the healthy apiaries in that locality.

Now, if Illinois had a good foul brood law, and an efficient inspector, this case would be followed up, and finally be gotten rid of.

But what kind of a bee-keeper is the man that would ship bee-disease from one State into another, instead of destroying it, especially when ordered to do so by one whose duty and authority it is to clean up such disease before it is spread any further? The offending bee-keeper deserves the severest condemnation possible by his fellows, and also the complete destruction of his whole apiary if even the slightest trace of foul brood is found therein. Any man who would so wantonly convey disease from place to place, rather than obey a wholesome law, should be held up to the scorn of all good bee-keepers and citizens, and be made to feel to the fullest extent possible the result of such wilful disobedience.

We hope that there may be sufficient agitation to secure the much-needed laws in all the States for the protection of bees from contagious diseases. In view of the good work already done by the few State, county and province inspectors of apiaries, it would seem that every State would be able to secure at least one inspector by the passage of a suitable law.

The Hive-Tool that suits best at Medina is a putty-knife, says the editor of Gleanings in Bee-Culture, while Dr. Miller says the Muench tool is away ahead of any other tool he has ever tried. Its broad semi-circular blade is easily wedged in under cover or super without marring the wood, and the other end is so constructed that a slight twist forces the frames apart with the exertion of very little strength.

Red Clover Honey.—A conversation is reported in Gleanings in Bee-Culture which is supposedly based on fact, from which it appears that a neighbor of G. M. Doolittle's, living two miles distant, finds red clover perfecting its bloom for the first time in 15 or 20 years, and his black bees are not to be seen on it at all, while Mr. Doolittle's yellow bees are just swarming on it. From some colonies Mr. Doolittle took as high as 80 one-pound sections of red-clover honey, while the average yield was not far from 65 sections. The linden came, and made the total average from colonies not interfered with by queen-rearing about 145 sections, the highest average he has had except in 1877. It would be just like him to say that he now places a higher value on long tongues than he did.

A Special Encouragement in Queen-Rearing lies close neighbor to the discouraging fact that we have little or no control of the drones. In order to stimulate to greater effort, it may be well to bring out with some minuteness wherein this encouragement lies. While it is true that drones from neighboring apiaries may meet our young queens, yet where one has a hundred colonies or more, especially if neighboring bees be few, the predominance in numbers of the drones in the home apiary makes the chance fair for some degree of safety from outside interference.

Let us suppose that we are so situated that outside interference of drones need not be taken into account. Suppose, too, that after close watch and careful record we have found one queen whose workers show marked superiority as honey-gatherers. All the better if the queen be of such age that such superiority has been shown in two or more years. The parents of this queen have had characteristics that made such a combination as to result in an offspring superior to either of the parents. Let us call the drone father of our present queen D1, the queen mother Q1, and designate their drone and queen offspring respectively as D2 and Q2. From our superior queen, Q2, will be reared the present season drones and queens that we will call D3 and Q3, and it will not be a difficult matter before the close of the season to have a Q3 queen in every colony in the apiary. Next season will then open with an apiary headed by Q3 queens, whose workers will be from fathers that vary from each other, hence the workers will be of varying value, none of them perhaps coming up to the mark of the workers of Q2, but taking the apiary as a whole there will be a noticeable improvement.

Now as to the rearing of queens next season. If our superior queen, Q2, is still living, and we are willing to take the risks of inbreeding, we may rear queens from her, or we may obtain a good queen of unrelated blood from elsewhere. In either case, the drones that meet our young queens will be the same, the sons of the Q3 queens, and may properly be called D4. Right in the character of these D4 drones lies our special encouragement. As parthenogenesis prevails among bees, these drones will not be of the same blood as the queen and worker progeny of their mother, but will be of the same blood as the Q3 queens themselves, and consequently of the same blood as the worker progeny of our superior queen Q2. Whatever superiority may have

been shown in the worker progeny of that queen, we have that same superiority in the drones with which the entire apiary is now stocked. Some claim that it is more important to have good drones than good queens, and no one denies that the drone is fully as important as the queen. So whatever the quality of the queens reared next year, we are sure of drones of best quality.

As already intimated, all this must be discounted by the chance of inferior drones from outside, but after making that discount there is still food for much encouragement in the thought that only superior drones are in our own yard.

The Best Fumigator.—A Stray Straw in Gleanings in Bee-Culture says:

If it is true that bisulphide of carbon will kill moth-eggs as well as larvæ, why is it not a long way ahead of sulphur for those who fumigate their sections? Bisulphide can be used once for all when sections are taken off, or within two weeks, and save the repetition of the fumigation that sulphur requires, also saving the danger of making the sections green with sulphur.—[If the reports are true, the man who persists in using sulphur in place of bisulphide of carbon is far behind the times. The bisulphide is more thorough, and much less trouble to use. While it is subject to more or less danger from explosion, the burning of sulphur, even in an iron kettle, also has its danger.—EDITOR.]

But even bisulphide of carbon may have to give way to gasoline, according to J. B. Rapp, who says in the same periodical:

I have just made an important discovery, to me at least; that is, that gasoline is as effective in killing moth-worms in bee-combs as bisulphide of carbon, and it does not cost a twelfth as much. My plan is to fill a *tight* box or barrel with combs, then pour in a pint or so of gasoline; close up tight for 24 or 36 hours, and the work is done. Gasoline beats sulphur far away, and is much easier used, and safer. I have used gasoline on hundreds of Langstroth combs, and have no trouble with worms, as I think the gasoline kills the eggs as well as the worms.

The editor adds that he knows gasoline can be used in place of the more expensive drug to destroy ant-nests, but it takes a larger quantity.

The Production of Beeswax.—Harry Howe thinks there may be profit in producing wax instead of honey in Cuba. He says in Gleanings in Bee-Culture that in the olden time many apiaries were run entirely for wax, the honey being thrown away. At present wax brings 9½ times as much as honey in Cuba, and the conditions are peculiarly favorable there for the production of wax, the honey-flow being eight months long, with hot enough nights during half that time for secreting wax without waste of heat. He says:

My plan is to cut out the combs instead of extracting them, and return the frames, but only half from each hive, extracting the other half so they will at all times have storeroom. Then, when there is no longer a surplus to be had in the fields, contract the brood-nest and set out honey at one side of the apiary. As fast as they carry in the honey, melt the wax which remains; then when they have built their combs nearly down, set them out to be emptied and melted.

I think the improved condition of my bees in the beginning of the next harvest will about pay for the extra labor; but until it has been tried, no one knows how it will work.

Weekly Budget.

MR. JOHN C. WILMS, of Riverside Co., Calif., wrote us. Sept. 18, that he had taken off 26,850 pounds of extracted honey from 115 colonies, spring count. Pretty good average per colony.

THE APIARY OF LESLIE E. HAZEN, of Nemaha Co., Kans., is found on the first page of this issue. The photograph was taken from the northeast, so the rows of hives running north and south in the apiary can not be seen. We should think, however, that it is a very neat apiary.

MR. HARRY HOWE, the "lightning operator," has had some sympathy wasted on him by the report that he was hopelessly broken in health. It appears that the news of his ill-health was a year old or more, and his friends will be glad to learn that he is now as well as ever, and caring for about 1000 colonies of bees in Cuba. The report and the correction have both come through Gleanings in Bee-Culture.

MR. WM. ROHRIG, of Maricopa Co., Ariz., gave this office a call on Monday, Sept. 23. He had been in the East—New York, Buffalo, etc.—looking up the honey interests. He is vice-president of the Arizona Honey-Producers' Association, which has quite a number of car-loads of extracted honey for sale, but they think the prices offered so far are too ruinously low. Mr. Rohrig has about 900 colonies, in three apiaries. The principal source of honey there is alfalfa, which in that locality seems to yield a light amber honey, while in Colorado and Utah alfafa honey is very white. This great difference in color seems quite unaccountable.

QUOTING THE HONEY MARKET.—Messrs. Blake, Scott & Lee, of Boston, write us as follows in response to Mr. Cooley's letter on page 363:

AMERICAN BEE JOURNAL:—We note with interest the letter of Mr. Stoughton Cooley in the issue of Sept. 5, and as we have had the honor of quoting in the American Bee Journal for several years past, a word from us might not be amiss at this time.

Our method has been invariably to quote from actual sales. During the summer months—in fact, we might say from May 1 to Sept. 1—the demand for honey is so limited that quotations are practically nominal, and although we received quotation cards regularly, yet during this interim we very frequently simply state that "the market is without change."

Now, the question would seem to arise, Which is the more reliable, quotations given by the commission men from actual sales, or quotations from a trade paper? When it is known that the trade papers in the various centers must depend upon the commission men themselves for quotations, it will be seen at a glance that both the quotations the American Bee Journal receives, and those of the trade papers, are primarily from the same source, and in that event the former would naturally be the latest and most up to date. From our experience with quotations of other commodities, we know that the quotations in the American Bee Journal are more apt to be reliable for this reason—you are quoting one specialty? In the trade journal, honey is but one of a great many, and for this reason will not demand the searching inquiries that the American Bee Journal is in a position to give.

By referring to the instance mentioned in Mr. Cooley's letter, it will be seen that it comes during the inactive period of the year; while if reference is made to the issue of Sept. 5, it will be found that the oldest quotation is Aug. 6, and from that on to Aug. 22, during which time we venture to assert that there could be no essential change in any market.

We might mention that in our business we have had occasion from time to time to write to different markets when for any reason our market happened to be short of supply, and we have invariably found that we were unable to buy at a lower price than prices quoted; thus proving the correctness of the quotations, and certifying to the value of the American Bee Journal to our shippers.

Wishing you continued success, we remain,

Yours respectfully,

BLAKE, SCOTT & LEE.

We should be pleased to hear from the rest of those who quote the honey and beeswax market for the American Bee Journal. We want to get at the bottom of this matter, and if there is a better way to get at actual market values we desire to know it, and avail ourselves of it. What have the rest of the dealers to say?

APIARY OF J. W. TUCKER & SON.—The picture on page 634 was taken from the roof of the barn. The aged lady to the right is Mr. Tucker's mother, and next are his wife and daughter Grace. The young man on the left is his son, and the people in the background are his next-door neighbors. The little boys came in at the eleventh hour, but one can see them by looking closely.

It will be noticed that quite a few of his hive-covers are flat, and he says they are made in this way: The two gable ends proper are made out of $\frac{7}{8}$x1$\frac{3}{4}$ inch wood rabbeted out $\frac{3}{4}$ of an inch deep on the lower edge for the under lid to lie in, leaving $\frac{1}{4}$ inch to hook over the end of the hive. The center gable is one inch. The top lid projects one inch all the way around, and the tin is turned down over it. There are several layers of thin paper $\frac{3}{4}$ of an inch under the tin. The one-inch air-space and the paper make the cover all right, and it doesn't cost much more than the other kind.

MR. JOHN G. COREY, of Ventura Co., Calif., wrote us as follows, Sept. 10:

I had no honey in 1898, 1899 and 1900, but this year I built up my bees to my original 200 colonies, and have taken 16,500 pounds of honey. My stock had run down to 135 colonies

I am one of the old bee-keepers, having been in the business since 1860. My father kept bees in gums; he got his start from bee-trees. We lived in Rock Grove, in Stephenson Co., Ill., 15 miles north of Freeport, settling there in 1836. We hauled wheat to Chicago, 110 miles, and sold it for 40 cents per bushel; camped out, and hauled oats to feed our horses for the round trip, which took seven to eight days.

MR. EDWIN BEVINS, of Decatur Co., Iowa, called at this office recently when on his way to Wisconsin for relief from a severe attack of hay-fever. We wish him complete relief from that terrible affliction.

Convention Proceedings.

(Continued from page 616.)

Report of the Texas Bee-Keepers' Convention.

BY LOUIS SCHOLL, SEC.

FIRST DAY—AFTERNOON SESSION.

The convention was again called to order by Pres. Salyer, at 2:00 p.m., and the first business was the report of the committee on constitution and by-laws. Secretary Scholl read the following, which was unanimously adopted.

CONSTITUTION.

ARTICLE I.—NAME.

This organization shall be known as "The Texas Bee-Keepers' Association."

ARTICLE II.—OBJECTS.

Its objects shall be to promote the interests of bee-keepers; the exchange of thoughts, experiments, etc., in apiculture, through the meetings of this Association; and through a closer relation of its members.

ARTICLE III.—MEMBERSHIP.

SEC. 1. Any white person who is in accord with the objects and the aims of this Association, may become a member upon the payment of $1.00 to the Secretary-Treasurer, payment to be made at or before each annual meeting of the Association; or not later than 10 days thereafter. Membership will continue as long as all dues are paid up.

SEC. 2. Any person may become an honorary member of this Association upon a two-thirds vote of the members present.

ARTICLE IV.—OFFICERS.

SEC. 1. The officers of this Association shall be a President, a Vice-President, and a Secretary who shall be ex-officio Treasurer.

SEC. 2. The officers shall all be elected annually by ballots of the members of this Association at their annual meeting.

ARTICLE V.—DUTIES OF OFFICERS.

SEC. 1. *President.*—It shall be the duty of the President to preside at the annual meetings of this Association, and to perform such other duties as may devolve on the presiding officer. The President shall be ex-officio Vice-President of the "Texas Farmers' Congress."

SEC. 2. *Vice-President*—In the absence of the President, the Vice-President shall perform the duties of President.

SEC. 3. *Secretary.*—It shall be the duty of the Secretary to keep the records of this Association; to make a report of the annual meetings; to receive membership fees; to make a report at the annual meetings; and perform such other service as the Association may direct.

SEC. 4. The President, Vice-President and Secretary shall form an Executive Committee. Their duties shall be such as usually fall to such officers.

ARTICLE VI.—FUNDS.

SEC. 1. The Secretary shall remit to the General Manager of the National Bee-Keepers' Association, within two weeks after the annual meeting, the sum of 50 cents for each paid-up member, as a membership in the National Bee-Keepers' Association for one year.

SEC. 2. The Secretary shall receive not less than $10.00 annually for his services, and shall receive another sum equal to his legitimate expenses for the benefit of this Association.

SEC. 3. The remaining funds of this Association shall be expended as the members thereof may direct.

ARTICLE VII.—MEETINGS.

This Association shall hold annual meetings at such time and place as the members may select by a two-thirds vote at some regular meeting; but if in any event it becomes impracticable to meet at the place selected, because of unforeseen events, then this Association shall hold its meeting at such time and place as the Executive Committee may select.

ARTICLE VIII.—COMMITTEES.

The President of this Association shall appoint, yearly, the following committees: Resolutions and Petitions; a Program Committee of one; and such other committees as may become necessary.

ARTICLE IX.—GENERAL.

SEC. 1. This Association shall ally itself with the Texas Farmers' Congress in every way possible, provided that such alliance is never detrimental to this Association.

SEC. 2. It shall be one of the aims of this Association to secure the passage of a law establishing an "Experimental Apiary" at College Station, together with the appointment by the Governor of an experimenter, who shall be recommended to him by the Texas Bee-Keepers' Association.

ARTICLE X.—AMENDMENTS.

This Constitution may be amended by a two-thirds vote of the members present at some regular meeting.

The new association now bears the name of "Texas Bee-Keepers' Association," leaving the "North Texas" and "South Texas" associations as "local" bee-keepers' associations. Every Texas bee-keeper ought to be a member of the Texas Bee-Keepers' Association now, as with its new constitution and a new set of officers a great deal of good work can be done if the bee-keepers will only lend that which these men have asked for—the help, assistance and co-operation of the bee-keepers, and with that the Association could make strides forward as never before; only we *must* have their help. Every bee-keeper in our great State ought to take pride in helping to build up a State association that will surpass all others, and this can only be done if they will give their assistance. Put your shoulders to the wheel, that is, your dollars into the treasury, paid for your annual membership, and help to keep it going. The greater the association, the more members it has, the more can be done.

Now something about what you get if you want to be a member:

By paying your annual dues of $1.00, you are not only a member of the Texas Bee-Keepers' Association, but 50 cents of this one dollar is sent with all of the other members, to the general manager of the National Bee-Keepers' Association, securing membership with that organization also. Thus one is a member of his State association, and at the same time can enjoy all the benefits of the National Association at just half the regular rate. Of course, it will be well to bear in mind that to do this, members must act according to Article III of the Constitution of this Association, in regard to membership and membership fees.

Besides all this, a reduction has been secured in the subscription prices of our bee-papers, when pay for them is given to the Secretary of this Association along with their annual membership dues.

The Secretary was instructed to write to each member, of the change that has taken place; of the new name of the association; of its new constitution; its new business, objects and intentions; and to notify them of their annual dues of one dollar.

After this the general subjects on the program were again resumed, namely: "Manipulating Bees for a Large Yield of Extracted Honey," by O. P. Hyde, who said the main objects were, to have good, prolific young queens; large hives, not less than ten frames, then tier up as soon as room is needed, three or four stories high, and as soon as filled and well capped over take out the honey. He also touched on the minor points connected with producing large amounts of extracted honey; the above being the main objects.

W. O. Victor read an article he contributed to the Review, which, however, is too lengthy to copy, and the issue is not before me to make a summary.

FORCING QUEENS TO LAY IN CELL-CUPS.

"How Can Queens be Forced to Lay in Queen-Cell Cups?" was answered in a paper by H. H. Hyde. He does not claim to be responsible for being assigned that subject, and hopes nobody will be disappointed if he fails to give satisfactory solution of the question. He has not much experience to prove or disprove this query, but cited a case where he put cell-cups in top-stories of good colonies before grafting, to have them polished by the bees, when he distinctly remembers where in one case the queen laid an egg in such a cell, which was built out and hatched a queen. He said further that by placing cell-cups conveniently in a hive of bees that wish to supersede their queen, such queens could be forced to lay in them. Also at swarm-

ing time, queens can be forced to lay in such cell-cups conveniently placed in the hive; at other times it would not seem practical, and hard to be accomplished.

Mr. Stachelhausen thinks that it can only be done during swarming-time.

Mr. Atchley told how it could possibly be done, by placing cell-cups around and near drone-brood, conveniently, and where queens are mostly found after their regular season's laying has been at its fullest, when the queens are almost worn out from the hard work of depositing worker-eggs. It is then that they are almost crazy to resort to depositing drone-eggs, as it seems to be easier for them to do this than that of laying worker-eggs. This of course, like the other cases cited, will be at about swarming-time.

IMPORTANCE OF GOOD QUEENS.

A paper from Willie Atchley on this subject was read, in which he said that too much could not be said about queens. Good queens, good bee-keepers, and good localities make bee-keeping a success; and either of these essentials lacking, bee-keeping is a failure. It is highly essential that all apiarists look sharp to the prolificness of their queens, and the working qualities of their bees. Give him good queens, and a good location, and he will turn out a crop of honey.

Mr. Weaver and others gave some of their experience about good queens, a good locality, good queens, and good management, being a sure road to success. Some told about the difference in queens, some being large and fine looking, but almost worthless in other qualities, while some of the very smallest, sometimes called "stub" queens, have done wonders. This, however, is not a rule.

REARING GOOD QUEENS.

This was by Mr. G. F. Davidson, who gave his modus operandi, which were given at previous meetings of the Central Texas Bee-Keepers' Association.

He recommends the Alley plan he has so long practiced, and with which he has been successful.

H. H. Hyde spoke in favor of the Doolittle plan and method, and although the *best* queens can be reared by the Alley plan, with the Doolittle method good queens, and more of them, can be obtained.

MOVING BEES.

O. P. Hyde had much and varied experience in moving bees, as he moves bees nearly all the time. He has also had some *fun* connected therewith, on which account he began to study to find out the best way to move bees, and has been quite successful. To close the entrances, he uses a device (the idea of which he obtained from a bee-keeper who did not know anything about bees, only having a colony or two), with which he can close up the entrances of 10 hives to one closed in the ordinary way, by tacking wire-cloth over the entrances. It is simply a piece of tin about two inches wide, with a cleat or piece of board half as wide nailed on the upper edge, all as long as the hive is wide. The lower half of the tin is perforated to give ventilation. Now with two 3*d*. wire nails in the cleat, just tack on the entrances, and it is done.

Next, the cover is nailed down with two more nails, one on each side, into the side-walls of the hive. Two or more story hives are held together by means of strips of lath nailed to the sides of the hive, diagonally across the sides.

In hauling, one should have a wagon-bed wide enough so two hives can be set end to end across the bed, and other tiers the same way on top of these. For this purpose they have an "Electric" handy, low wheeled wagon, with a wide platform, having low side railings on the outer edges. If understood rightly, the back ends of the hives rest on these, leaving them slanting towards the middle from each side. The second tier, when put on top will then easily stay in place. In this way he has hauled bees for over 30 or 40 miles, and hardly a quart of bees were lost.

Mr. Davidson and others have used wire-cloth, but it is much trouble.

Mr. Atchley told about some of their experience, as they move bees extensively. They keep a large share of their bees on the migratory plan. Sometimes it happens to rain hard some distance from their bees, and the country around being a most wonderful one in regard to the quick growth of honey-yielding and other plants after a heavy rain, the flowers appear most abundantly in a very short time. It is then that they move whole apiaries from dry situations to the fields yielding nectar. For all this they are extra prepared with bee-wagons, and some 200 regular shipping-cases with wire-cloth, provided with slotted cleats in which the frames are hung, with all the bees put in, closed up, and are then ready to haul on the special bee-wagons. The empty hives are hauled on any other wagon separate from the bees.

Mr. Victor makes large frames by ripping hive-bodies into rims, one inch square, on which wire-cloth is tacked. This is nailed over the top of the hives after the covers have been removed. He next sticks moss into the entrances, nails cleats, one on each side of the hive, and they are ready.

H. H. Hyde recommends cleats nailed on diagonally across and from opposite corners from the one on the other side. In winter or cold weather, wooden cleats to close the entrance are sufficient.

IMPORTANCE OF LARGE BREEDING-SPACE.

In a paper on this subject L. Stachelhausen said the secret of successful bee-keeping is to have the colonies at their fullest development just when the main honey-flow commences, for which purpose it is necessary to use different managements, whether the flow is early or late in the season. In most localities this honey-flow is so early that we have to do all we possibly can to develop the colonies at the right time.

His and other bee-keepers' experience has taught that in their localities they can get their colonies developed to the most possible strength before the main honey-flow, without any work at all, if they give them a large breeding-space and large comb-surface. This is the reason why Dadant recommends large frames and large brood-chambers. An experience of about 20 years has taught him that, in his climate at least, the division of the brood-nest into two or more shallow stories is no hindrance at all for the development of the brood; the queen will pass these "sticks" without any hesitation. On the other side the extension of the brood-nest to another comb, sidewards of the brood-nest, is much more difficult. This is easily explained: The combs on both sides of the brood-nest generally contain a large quantity of pollen, and can not be used for brood before this pollen is consumed. To extend a brood-nest of this character sidewise, we are forced to remove these pollen-filled combs and replace them with empty ones; or to set empty combs into the middle of the brood-nest, as recommended by Mr. Doolittle. All this has to be done at the right time, not only corresponding to the strength of the colonies, but empty combs should be given just in the place where the queen is laying, because, even in this respect, the bees keep the brood-nest in wonderful order. For this reason the colonies have to be watched closely all during spring, causing a considerable amount of work, limiting the number of colonies a man could keep, especially if scattered in different apiaries.

If in large brood-chambers, with a large amount of comb-surface, all this work is unnecessary, because the development of the colony goes on without any work of ours, showing at once the advantage of such large brood-chambers. More colonies can be kept with the same amount of work; and even if the honey crop per colony should be smaller, which is doubtful, as by other management, the profit of the whole apiary will be larger. To get strong colonies in the spring, in such hives, it is necessary always to have enough honey in the hive, but not too much, with sufficient number of empty cells, or always enough more than the bees need at a given time.

Another advantage of large brood-chambers is that swarming is reduced to a minimum, especially so if the bees are kept in large hives during several generations. In this respect the condition of the honey-resources of certain localities are to be considered; in some localities swarming can be practically prevented by the use of large hives, while in other localities the number of swarms is reduced very much, and, to prevent these few swarms, other ways can easily be executed.

Nobody disputes these advantages of large brood-chambers in early spring, but some say that they have disadvantages during the main honey-flow. It would seem seasonable to ask, Why not use large brood-chambers in spring, as long as they are advantageous, and afterwards contract the brood-nest as soon as thought advisable? But this objection can not be overcome by this simple way.

1st. One objection is, when producing extracted honey, and using an unlimited breeding-space, during a very good honey-flow, the brood-nest will be contracted by the honey which the bees store around the brood. Contrary, in a moderate honey-flow, it is said, that the bees will use the large space to breed extensively, and will store very little honey, at the end of the flow leaving a strong colony of useless

consumers only. This objection is especially raised in Germany, where small hives are used.

If large hives are used all the year around, there will be strong colonies in the spring, which will develop much faster than weaker ones.

When the queen has reached the limit of her egg-laying capacity, which is a little more than 3,000 eggs daily, it will be impossible to extend the brood-nest any more; the queen will soon need a rest; the number of eggs laid daily is diminishing, and the now very strong colony will send out a very strong force of field-bees. Contrary, if we have a weak colony in the spring, in a brood-nest too small for proper development, the queen can not reach the limit of her egg-laying power; now the honey-flow commences, and we give the supers, it is only natural that the brood-nest is extended into these supers, and a large part of the flow is used to rear these worthless consumers, so much talked about. This undesired condition is caused by the small brood-chambers used in early spring. During the spring the queen could never lay all the eggs she would be able to lay, for lack of empty cells at the right place. Now, by giving a super with empty combs during a moderate flow, the queen is given the best occasion to extend her egg-laying to her fullest capacity. This will be prevented if the honey-flow is very good, and so fast that the bees fill the cells faster with honey than the queen can lay eggs in them, or if she is kept down in a limited space by a queen-excluder. By the latter manipulation a large or small amount of honey may be obtained, according to the strength of the colony; but development has been hindered in the spring, consequently the colony is not as strong as could be, besides the large amount of unnecessary labor expended.

2d. Of more importance is the objection, that large brood-chambers are in a bad condition for the production of section honey, when the main flow commences. When the section supers are put on, at the beginning of the main flow, the combs in the brood-chamber should contain as much brood as possible, and some bee-keepers want a brood-chamber of such a size that the queen can keep full of brood during the honey-flow. Hence they neglect the advantages of large brood-chambers during spring, and try to build up strong colonies in small chambers, by manipulating the frames, *a la* Doolittle, with some considerable work.

The problem is, how to use the advantages of large brood-nests *in the spring, and* the advantages of small brood-nests *during the main honey-flow*, both combined, without their disadvantages.

He solved this problem in a very simple way. It is well to know that no colony is better fitted for storing honey in sections than a strong swarm issuing just at the beginning of the main flow; especially if two or more swarms unite just at the right time, we may get from them a good crop of comb honey.

Gravenhorst taught, about 15 years ago, how to form such swarms at any time, and have them work with the same vigor as natural swarms. Consequently, it was easy for him to combine these two experiences and in this way to solve the problem.

Since publishing his way of producing comb honey, more have appeared who use ways similar to his.

The construction of the hive is of less importance, as we can use large brood-nests in different ways. Those who have 8 or 10 frame hives may take two stories for a brood-chamber, one on top of another. He uses shallow cases, and the bees have brood in three or four of these in the spring. Dadant prefers large combs in single stories; all these managements have advantages and disadvantages.

One thing is important, that the frames are wide enough; fortunately this question is settled for the United States, for the width of the Langstroth hive is the standard here, and large enough. Other things could be considered with the advantages of large brood-chambers.

(Concluded next week.)

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

Contributed Articles.

Bee-Diseases in California—Laws Needed.

BY HON. J. M. HAMBAUGH.

ALL is not gold that glitters," but every cloud has its silver lining. This I have found quite applicable to our chosen pursuit of bee-keeping here in California, and among the many clouds that hang about the bee-keepers' horizon is that of bee-diseases.

Here, in this salubrious clime, where every month in the year, and almost every day in the year, bees can go forth in quest of pollen and nectar, opens opportunity for the spread of infectious diseases, and this, coupled with the wild waste of rocky cliffs, canyons, and wooded districts, furnishes hiding-places for bees, that can wreak and fester in diseases unmolested. It is hard for the wide-awake bee-keeper to overcome these dangers beyond his reach, but there is a danger of far greater magnitude right at his very door, that he needs to recognize, and which needs a cure, in the form of a little legislation.

Here is Mr. A, a practical bee-keeper, with all his combs throughout his entire apiary movable, and accessible at any time for inspection, and in appropriate condition to battle against any disease that may arise. Mr. B, his next door neighbor, is of the slipshod, go-as you please bee-keeping make-up, and allows his bees to build their combs at haphazard, half-moons, and all shapes that may suit their fancy, in their brood-chambers, and the consequence is, he is locking the door against all knowledge or treatment of any disease that is likely to turn up; he is also in shape to be (as it were) hugging an adder to receive its fatal sting, and also to dispense its venom among his neighbors. When there is such a deadly foe as foul brood abroad in the land, these inaccessible hives are a veritable death-trap, and, so far as inspectors are concerned, they are simply barren from investigation, save what the exterior may reveal.

In our route through the country these troubles are so manifest, and there is such a universal cry against their toleration, that it seems to me a very easy matter to have a law placed upon our statutes, compelling every one who keeps bees to have them upon movable combs, built in movable frames, and, by so doing, minimize the chances for contagious diseases, besides doing away with the old, slipshod way of keeping bees We believe that every wide-awake bee-keeper in the land should cry down the box-hive, stationary-comb evil, until every one who dares to keep bees would understand that to do so meant they must be upon movable combs, or the penalty of a fine incurred.

We also believe that a little further protection is needed to the bee-keeper, by statute enactment, and that is, when a bee-keeper contemplates moving from one location to another, he should have a certificate from a lawfully appointed inspector, the said certificate to be an assurance that each and every colony is free from all infectious or contagious disease, otherwise let it be a finable offense to remove them from their old location.

Now, Editor York, I have sounded the slogan of war, let us hear from you as well as others interested, and see which one of the sister States will be the first to start this good and much-needed reform. San Diego Co., Calif.

Robbing in the Apiary—Honey-Packages.

BY C. DAVENPORT.

I WOULD like to be allowed to say a few more words in regard to robbing. Last year I wrote an article in which I gave some of my experience in regard to bees robbing, and afterwards in some comments that were made about it, it was said, in effect, that the advice I gave on the subject was about like advising one to scatter live coals among dry straw. But this is a mistake, for I did not advise any one to practice my methods; in fact, I remember that I plainly said that I did not advise any one to follow my practice. I only gave my experience in regard to the matter; but what I wish to say is that, in my opinion, it

will some time be known, and generally recognized by bee-keepers, that a colony of bees of average strength (and, I feel tempted to say, quite weak colonies if in normal condition) are never, as the saying is, "cleaned out by robbers," or never molested by them enough to injure them materially in any way, no matter what has been done to induce robbing, or what the natural provocation to the same may be, except when they are first set out in the spring.

I have watched this matter very closely the last ten years, and, besides, from two different incidents I have witnessed, I know that a colony of average strength will, before succumbing to robbers, make such a fight as few would imagine them capable of doing. One of these incidents may be of enough interest for me to take space to describe briefly.

It occurred in an out yard during a time of great scarcity. A hive was in some manner tipped over, off its stand, so that it lay on one side, with the whole top and bottom fully exposed. Two heavy combs of honey were broken. How long it had lain in this position I do not know.

When I arrived, the air near it was black with bees, and thousands were dead on the ground around it. But the robbers, so far as I could determine, had secured but very little of these stores, so gallantly defended, and the colony was far from being whipped or defeated, though no doubt they would have been if the hive had laid in this position long enough. I know that colonies, sometimes quite strong ones, are often cleaned out by robbers, but they are colonies that are not in a normal condition. Usually in such cases they are hopelessly queenless, and make but little effort to resist robbers.

PAPER PACKAGES FOR EXTRACTED HONEY.

There has been a good deal of discussion the last two years or so in regard to the best package for extracted honey. I have read with much interest what has been said in regard to the matter, and I envy those who are able to make a success of using barrels, for I have never been able to get any kind of a barrel that would hold honey in a warm, dry room without leaking. Even when I coated the inside a quarter of an inch thick with wax or paraffine it would soon crack and allow the honey to ooze out between the staves. But my failure in this line was not because the barrels were not dry enough; I have kept both those made from hard and soft wood in a dry, warm room for two years, and then after driving the hoops as tight as could possibly be done, they would soon commence to leak after honey was put in them. I have not only tried different kinds, but a year ago last fall I had three large ones made to order, which were warranted not to leak.

I have, however, made what might be called a success of sacking up extracted honey the same as one would wheat or other grain. Last fall at one time I had about 1000 pounds sacked up. Possibly in the future extracted honey may be shipped in sacks instead of cans or barrels.

The way I came to put honey in sacks was this: The three warranted barrels mentioned, which held about 500 pounds each, got to leaking soon after being filled—two of them badly. I had nothing on hand to put much of the honey into, but I had observed when using the no-drip shipping cases that if a section become broken or marred so the honey ran down on the manilla paper tray in the bottom of the case, this paper seemed to hold it as well as a tin tray would; and I had noticed, at the place where I board, a number of very heavy paper sacks in which flour had been purchased. I found they had a large number of these laid by, the accumulation of years. The paper they were made of was very much heavier and tougher than that used in shipping-cases, but, instead of being glazed or smooth like the latter, it was slightly rough or porous looking. So I took a couple of these sacks and thoroughly coated the insides with beeswax, and filled them with honey. They held it all right, and soon afterwards enough sacks were waxed to hold all the honey the two worst leaking barrels contained.

The honey remained in some of the sacks nearly a month, and no leakage whatever occured, except with one sack, and this was owing to a defect in the sack.

My method of waxing the inside was to pour a large quantity of melted wax in a sack, then with one hand gather up the mouth of the sack tight, and with the other hand take hold of the bottom at one corner, so as to turn it bottom side up and around in such a way that the wax would reach and coat all parts of the inside. This had to be done quickly, or a good deal of wax would adhere to a sack. It took considerable to wax them, anyway, but after the honey was taken out, the sacks were cut up and boiled in water, by this means getting all the wax back again.

My success with these large sacks led me later to try small sacks far the retail trade. A good many who come to the house for a few pounds of honey never bring anything to put it in; few of them will buy a pail or jar, and if I lend them a dish to carry it in all of them will readily agree to return it and then never do so. I have many customers in town to whom I carry a few pounds of extracted honey, and in this case I either have to wait for them to empty the dish I carry it in, or else call for it again, when, if there is any one at home, we may perhaps find it has been filled with something else. For instance, last season one lady ordered three pounds; I had nothing smaller than a gallon jar on hand, so I delivered it in that. When I called for the jar, some time afterward, it was full of butter. She said she, of course, supposed the jar went with the honey. My experiments last season lead me to believe that I can reach this class of customers with a package that will go with the honey, for it will cost only about half a cent aside from some work in preparing it, which can be done during the leisure time in winter: a package that will give satisfaction to the customer, and be practically as safe to carry or deliver the honey in as one made of tin.

Southern Minnesota.

The Season of 1901, Suggestions, Etc.

BY A. BOOMER.

As the American Bee Journal is anxious to have reports from bee-keepers, as well as any suggestions they may be able to make as a result of experience in the management of bees, I send my report of the season, as well as one or two suggestions that may be of use to beginners.

NO HARM IN REPORTING LARGE HONEY CROPS.

My honey crop has been a very good one, but if I tell what it is, down may go the honey market. Pshaw, all rot!

About the close of the season, which has been a fairly good one in this Province, a local reporter of one the county papers, made some enquiries for use in the weekly report. A statement was given which appeared in the next week's issue, that Mr. So-and-So's honey crop would likely be 9000 pounds from some 90 colonies, spring count. Since the report in the paper appeared, the demand for my honey has been so great that I could sell ten times the quantity I have, and at better prices than I have formerly realized.

Since the said report was given, we have about finished extracting, and find the quantity to be fully 10,000 pounds, and I am pleased to find that most of the colonies have a fair supply for winter, so that very little feeding will have to be done. A considerable number of the colonies, I find, have superseded their queens.

Having all the bees I was able to take care of, or had room for, I discouraged swarming, and have only an increase of about 25 percent. I have not practiced queen-clipping, but, having no help this year, I was unable to keep so close a watch upon them as is necessary when the queen's wings are not clipped, and as a result I lost several swarms. Next season I will try what clipping will do to prevent this.

BUILDING UP WEAK COLONIES.

I notice that several correspondents are troubled to know how to build up weak colonies in the spring, or, in fact, at any time of the year. I have practiced changing positions of the weakest and strongest colonies, with good results. I suggest doing this on a fine day, when the bees are either gathering pollen or honey—say about noon—and if I have a colony becoming very strong, and I do not want increase, then exchange this with the weakest colony in the way suggested, and the chances are that swarming may be averted, and your colonies all averaged up and ready for the honey harvest.

This season I had a very weak late swarm of nice bees, that I wanted to retain, but they were entirely too weak to build up. I changed positions with a strong colony a few days before the honey-flow ceased, with the most satisfactory results—no fighting, nor any disturbance that I could notice.

CROSS BEES—THE "JOUNCING" METHOD.

My bees were unusually cross this year, there being only a day or two at the close of the basswood flow that I could extract without a veil, and mostly had to use gloves in addition to being well protected otherwise.

I tried the "jouncing" method of getting the bees off

the frames, recommended by Mr. Davenport, but while it may work with nearly empty frames, or the shallow Heddon frame, I am satisfied it will not do with any large-sized, well-filled frames.

NO USE FOR BEE-ESCAPES.

I have also tried bee-escapes, but have given them up as practically worthless. I have no time to fool away with them.

The honey-flow exceeding my expectations, I had to defer extracting for want of tins to put it in, and so tried bee-escapes, but, being alone, I found it about as much trouble, and got about as many stings getting the bee-escapes adjusted, as I did in getting out the combs without them. My plan has been to start after noon, give the bees a good smoking, take out the frames quickly, and run them into the extracting room, and stack them up three and four deep, until I had 10 or 12 in; then extract these. In the meantime the bees would get somewhat quieted down in the yard, and I would then get off a few more. Any bees that would go in on the combs would soon find their way to the windows, and go out of the escapes.

The season being unusually dry, the honey is of very fine quality, and sells readily in small quantities at 10 cents. Latterly we have had abundant rains, and the bees are breeding freely, which augurs well for good wintering.

"HIVING TWO SWARMS IN ONE HIVE."

On page 581, Mr. Davenport says he has had no trouble from hiving two swarms together when both issue at or about the same time. In July last, when I had a large swarm nicely hived, but before I could remove it, a large swarm issued, and there being a cluster of bees on the front of this hive, it came down and went in with them. I at once put on a queen-excluder and two cases of sections with mostly drawn comb, to give them room. On the 5th day after, one of the swarms came completely away, and clustered on a limb of the tree exactly where the first swarm had clustered, which led me to believe that it was the first swarm that had left the hive, as the others never clustered at all. The time between the issuing of the two swarms at first was not more than 15 minutes.

My experience thus far leads me to conclude that bees do not do everything by rule, and we may always expect them to do something we never knew them to do before.

Ontario, Canada.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses. By E. E. HASTY, Sta. B Rural, Toledo, O.

THE TWO-HIVE FEEDING PLAN.

Yes, Mr. Fargo's two-hive feeding seems to offer fine possibilities. But first we must find out whether it will work as a regular thing, or only in exceptional cases. If the open-topped screen-yard we had up a bit ago will work that will be pre-eminently the way to feed. *Apparently the two ways will combine kindly.* I think that one grand trouble about prolonged feeding in the home hive is that bees declare it annexed, and decide to let it be till needed. Some danger of the same thing in the two-hive method. In the open air a salutary fear that somebody else may get it will keep all but the very laziest pegging away. Page 531.

BLACK COMBS DISCOLORING HONEY.

I agree heartily that black combs will discolor the inclosed honey somewhat; yet I fear that the attempts to soak them clean are entirely unpractical. The situation is this: Many layers of dried dirt, separated by many exceedingly thin layers of silk or wax. The best we can do is to keep the whole thing dry. The first soaking removes part of an outer layer, and makes the whole wet and nasty. With each successive soaking more, and always more, dirt keeps coming "from away back." Ram a two-quart can one-fourth full of dirty handkerchiefs (such as are found in a bee-keeper's trouser's pocket at the end of a hot week); fasten them down so they can not be moved about; and how long ere the buttom layer will be cleaned by turning water in and out the top? Page 531.

HIVING TWO SWARMS TOGETHER.

To C. Davenport, page 581, I would say that my experience with voluntarily hiving two swarms together is not large, because I usually avoid it when I can; but they go together in spite of me pretty often; and my troubles with balled queens when swarms are mixed are by no means imaginary. Quite willing to let his many successes have their due weight—and also quite glad to have so sound a veteran to fall back upon as Dr. Gallup, page 532:

"If you have two or more swarms come out at one time and cluster together, or if you have after or second swarms with more queens than one and you wish to separate them, shake them into the clustering box and let them stay for half or three-quarters of an hour, and the bees will ball the surplus queens, and roll down to the lower edge of the box."

I note that Dr. Gallup says, "Sometimes they ball every queen, but not usually." I think that with me balling every queen is rather the rule than the exception, *if the swarm is a mixed one.* Why this difference? His experience, I think, has been mostly in fat locations, where bees seldom swarm except during honey-flow. My experience has been in a lean

MANUFACTURES AND LIBERAL ARTS BUILDING—PAN-AMERICAN.

location, where bees often swarm in time of dearth. As I see things, bees carrying little or no honey are not sure to be cross to their keeper, but pretty sure to be severe on stranger queens. In a mixed swarm all the queens are stranger queens to thousands of the workers, and if they balled some of them, and did not ball all of them, it would be a curious fact calling for explanation.

Glad to see that Dr. Gallup has had experience in making a colony into an impromptu swarm clustered in a box *for the purpose of moving their location a short distance* Have wondered whether that would work. He finds that it does.

HARD TO DESTROY ALL DRONE-BROOD.

I smiled when J. D. Gehring said that he found destroying all drone brood harder than he expected, and that unforeseen things happened. Been there. My dear bee fever child, don't you be too sure you *can* destroy all drone-brood—not even by the excellent Doolittle plans on opposite page. Page 533.

SHOWING MERCY TOWARD ANIMALS.

Prof. Cook, on page 537, did not pass on from mercy toward animals to mercy toward bees; but there is room for quite a sermon on that point. This paper surely goes to many readers who want to do just right in the little things of life. I have often felt it a difficult problem to decide just when a bee's little life *ought* to be spared (at appreciable expense of time, which means money), and just when the prompt sacrificing of the little life is the real right thing to do. I have also wondered about the would-be robbers and stingers, how much less claim they have upon our mercy than the more quiet members of the hive. I rather think that the insect door-keeper, doing duty promptly and well, should be a subject of admiration to a reflective and right-minded man—and that the sentence, "He stung me," ought not to be in such large vocal type as it is often put. Per contra, there gets afloat at times a considerable amount of sentimental nonsense and unwisdom, which would fain make us more careful of insect life than the Creator is himself, and which would make apiculture impossible before we got to its logical conclusions.

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The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

OUR VENICE.

Time and money spent in welding all the home influences and attractions and loves and sympathies, are well spent. A year ago I was driven along the "Mountain Boulevard" which leads from Santa Barbara to charming Montecito. This drive of seven or eight miles is one of exceeding beauty, it seems to me of almost incomparable beauty. As we sped along looking now upon the beautiful ocean, now skirting some beetling cliff, now plunging into some bower of green that seemed to block our way, I said over and over, "Oh, that the others of the home were here!" I said, "Before a year goes by, they shall, with me, enjoy this bit of Nature's finest tracery."

The year has been a brighter, happier, better one, as the memory of the charming landscape has given added charm to my life, and as the prospect of all of us of our home circle making that beautiful circuit together has been ever before me, I have been in a sort of perpetual sight-seeing with the dear home loved ones the year through. But the far summit of this pleasurable experience was only reached when last Saturday we all actually enjoyed together that wonderful bit of landscape. It was a red letter day in our family.

Santa Barbara has been called the Venice of America. I have never looked on Italian landscape, but I am sure it suffers no wrong in the figure. While there is not the thrift and wondrous beauty in its entirety that we so much prize and admire in Redlands, yet here one of the finest bays of the world lays its inexpressible charm before us. Many beautiful homes attract us as no other section of California can or does. I have never seen such a wealth of adornment in shrubs, trees and flowers, as this section has to offer. As I come to visit these lovely homes each year—and I never pass them by—I feel that I have a real ownership in them. The graceful cocus palms, the incomparable bamboos, the delicate, exquisite tree-ferns, and countless other vines, shrubs and trees, fill one with delight and admiration.

Montecito, the wonderful suburb, has some of the finest homes and the best adorned residences to be seen any where. As one drives along among the hills, shaded by live-oaks, he is ever and anon coming to a place where wealth, taste and Nature have combined to paint a picture that one loves to hang perpetually on memory's walls. I am glad when wealth gives to us such marvels of beauty as lovely Montecito so proudly exhibits, and I am more glad that Wealth does not keep them to herself, but seems pleased to share them with others of us that else would know them not. Surely, no one will come to California without feasting on the rare, exquisite beauties that make Santa Barbara and its lovely suburb so famous the world over.

TWO FORTUNATE WOMEN

"Ventura by the Sea" is the county-seat of the county by the same name. It is only a few miles from our American Venice. Scarce more than an hour by cars, which connect the two cities along the sea and give one a ride that is never to be forgotten. Here two women live that I am proud to know, proud to honor, proud to introduce to our readers. One of these women is Mrs. Gould, who has produced petunias that have startled the world. The other is Mrs. Shepherd, who has been equally happy in adding to the world's wealth of choice, incomparable begonias. If there is anything in the way of floral loveliness that outvies Mrs. Th. Gould's petunias, it is Mrs. T. B. Shepherd's begonias. If there are flowers and foliage any where that rival Mrs. Shepherd's begonias, they are in the not distant garden of her neighbor, Mrs. Gould. The whole world is enriched by the fond efforts of these two women. We have rarest, richest beauty that else we should not have known, for they would not have been.

Again, two women have done this beneficent work. We expect new, rich, rare developments from men. We have not usually found our grand women stepping to the front in such realms. We glory all the more when such strides are taken. I wish every home in the land could enjoy Mrs. Shepherd's begonias, and every household know more of God and pleasure because Mrs. Gould's petunias were daily companions. I know of one home that is so blessed, and its inmates are very grateful.

HOME FLOWERS.

I know of an orange orchard, ten acres, which recently sold for $12,000. I thought it a great price, and so asked the recent owner how he was so fortunate in his sale. He replied: "My roses and palms did it." His entire place is skirted by great fountains of green in the magnificent Phoenix palms, and alternating with these are most lovely roses, which grow and bloom as only California roses can do. Why can not every home rejoice in such loveliness?

I know that next to wife and the dear children, nothing so weds us to home as the flowers. I heard a lecturer say, a day or two since, that it was his business a few years agone to visit all the homes of a certain region. He said he found the home yard and porch the most certain index to the refinement and courtesy that would greet him in the home. He said he fancied that even the dogs in the flower-decked homes were more kindly in their reception. I believe it. Flowers beget a kindly, genial spirit, and every dog even is quick to feel and sure to be mellowed by such spirit. Were the flowers to be taken from our house, porch and yard, we would all wish to go with them.

THE ANT-LION.

A queer insect! What strong, sharp jaws! What a fierce, daring temper! A very rat-terrier among its kind. A unique home is his. He always dwells in the loose, shining sand. Above him is only space, for he rests at the very bottom of a funnel in the friable earth. His threatening jaws are alone visable; for all else is covered by the sand. Above him the side walls of his funnel are so steep that even the quick, wary ant passes its margin at its peril. Once our eager, daring, fearless ant-lion feels the tell-tale, falling sand, and he knows that another victim has had the temerity to brave the lion in his lair. He at once throws a harsh shower of sand, which surely brings the intruder down to the very jaws of death. No sooner has he the luckless wanderer in his merciless jaws than the latter is shaken as never a rat-terrier shakes his prey, until the poor victim has daylight and life shaken from him.

Thus these ant-lions are our good friends, for they take their often meals of insects that would else feed on our fruit

APIARY OF J. W. TUCKER & SON, OF JEFFERSON CO., PA.—See page 628.

and vegetables. The mature insect—the imago—that comes from these fierce, formidable ant-lions, looks much like a dragon-fly or darning-needle, but is easily told as the latter has very small antennæ, which are hardly visible, while those of these insects, though not large or long, are plainly to be seen.

I have just been visiting a sandy tract where these funnel-shaped holes and homes of the ant-lions were very much in evidence. I hope all our boys and girls will hunt them up, and collect the fully grown ones, that they may rear the flies.

Questions and Answers.

Questions on Breeding of Bees.

1. In selecting queen and drone mothers, what is the most important part to look to, to improve the stock?

2. Why do the most of queens produce drones not uniformly marked? And some queens will produce uniformly marked drones. Does it denote impurity with those that do not produce uniform drones?

3. Do you think it best to have the queen mother and the drone mother of no kin? or does it not make any difference if they are closely related?

4. Are the drones pure from a queen that is mismated, but reared from a pure mother? SOUTH CAROLINA.

ANSWERS.—1. In either case the important thing for practical purposes is to have mothers whose worker progeny show good results in the harvests gathered. All the better if of pure-established blood, but in any case the workers should be good honey-gatherers.

2. I don't know why. I hardly think that a difference in the appearance of drones is a sure proof of impurity.

3. Other things being equal, it is decidedly better that there shall be no close relationship. Those who breed for improved strains make some of their greatest triumphs through using closely related blood, because it is easier to find the same characteristics in two animals nearly related; but while it is easier to perpetuate good qualities through close relationship, it is also easier—perhaps I ought to say it is still easier—to perpetuate bad qualities through close relationships. On the whole, I believe it is a pretty safe thing for common bee-keepers like you and me to let close breeding alone.

4. If I should be obliged to answer that question in a single word, I should say yes, and for all practical purposes that is the right answer. But if you draw the matter very fine, it will be said that when a dam has borne an offspring her own blood may to a slight degree be affected by the blood of her offspring, and hence the drone offspring may be slightly affected. Dzierzon, however, always counted that the mating of the queen had no effect upon her male offspring.

Several Queen Questions.

1. I have been working a few colonies of bees for six years. I now have 30 colonies, and this season I have been more perplexed than ever at their actions. In the first place, my text books and papers teach me that with the sealing of the first queen-cell the old queen will issue with a swarm; but I have had several instances this summer where it failed to be true, after watching them for several days, after the cells were sealed, for swarms. I either killed or caged the old queen and destroyed all but one cell. What was the cause of their acting so? Was it a case of intended supersedure? If so, how am I to tell which is intended to swarm or supersede?

2. The queen of one of my best colonies disappeared, and they swarmed with a very small virgin queen. My wife caught her, but she got away and the swarm returned to the old hive. This was about 5 o'clock p.m. The next morning I looked through the colony and found a very fine virgin queen, and several capped cells, so I closed the hive and watched for a swarm. The queen kept peeping, off and on, all day, but no swarm issued, and after watching for two days I opened the hive again and found the fine queen gone, and a small one in her place, and cells all destroyed. What was the cause?

3. I had several colonies in normal condition, that sealed queen-cells without anything in them; or, at least, after waiting beyond the required time I opened them and found them empty.

I received a premium queen and tried to follow directions very carefully, but after eating the pasteboard off and part of the candy, they quit and kept clustered very tightly over the cage. After waiting three days I smoked them and turned the queen loose, but they balled her immediately, so I re-caged her and took four frames of hatching brood and set over a strong colony, with a flour-sack between, for several days. I kept her caged with her attendants for a day, then turned her loose, and after two or three days I set the hive on a stand by itself, and opened the entrance; but the next time I opened the hive she was gone. Now, what became of her? She acted like a virgin. NEBRASKA.

ANSWERS.—1. "Bees do nothing invariably," and there are exceptions to all rules. It is impossible to say whether queen-cells are intended for swarming or supersedure by the appearance of the cells, but you can generally make a pretty good guess from attendant circumstances. If you find only two or three cells, you are pretty safe in guessing that swarming is not intended. Of course that refers to cells well advanced, for when first begun for swarming there may be only one or two. If 8, 10, or more cells are started, you may feel pretty sure that swarming is in contemplation. The time when cells are found will help you to make a guess. Early in the season, when swarms are issuing every day or so, the presence of queen-cells points pretty strongly toward swarming; when the honey-flow is about over, they point toward supersedure.

2. A little hard to say. It is just possible that the small queen you saw last was the fine queen you had previously seen; for sometimes a queen just out of the cell looks quite different in size and color from what she does later. But it may be that the bees concluded not to swarm, and allowed all the queens to emerge, or to be destroyed. The piping of a queen is usually an indication of a forthcoming swarm, but not always. To be a reliable indication of a swarm, there must be the piping of the free queen and the quahking of the young queen or queens still in the cell. A young queen may pipe if no other queen is in or out of a cell in the hive, and a young queen may quahk before emerging without the piping of another queen.

3. Are you sure that nothing had been in the cells? It is a common thing for bees to fasten the cap on again after the young queen has emerged, and sometimes they play a practical joke on a worker that happens to be in a cell from which a virgin has emerged, by fastening the worker in the cell.

4. It is possible that in some way the colony had a virgin queen—one might fly into the hive without your knowledge, or a queen-cell may have escaped detection—and so there was an unconquerable hostility to the stranger, which would be in a less favorable condition for acceptance through the journey in the mail and the prolonged imprisonment. Such a queen may look very like a virgin, and then after commencing to lay become as large as she was before mailing. The probability is that the bees killed and dragged her out.

Dividing Colonies in Double Hives.

I have three double colonies. Would you recommend giving the top chambers a queen, and putting it where the bottom chamber is, and putting the bottom one on a new stand? Or what is your plan? INDIANA.

ANSWER.—In this case the supposition is that a colony in two stories is sufficiently strong to be divided. As to the best procedure, conditions must be consulted. The plan you suggest is all right if the upper story is weaker in brood and bees than the lower. In other words, leave on the old stand the weaker of the two stories, giving it the new queen, putting the stronger story with the old queen on the new stand. If the desire be to have the two colonies more nearly equal in strength without considering the honey crop, you might make the division at a time of day when most of the bees were in the hive, and put the stronger half on the new stand with the old queen, fastening the bees in the removed hive for a time, perhaps till the middle of the next forenoon, and carefully guarding against smothering. Of course the new queen must be caged as a newly introduced queen. But it's pretty late in the season to talk about dividing now.

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GENERAL ITEMS

A Good Yield of Honey.

I have a small apiary of 37 colonies. I started with two a few years ago. Some seasons they have done fairly well, and in others producing but a very little comb honey.

This has been the best season that we have had for three years in this section. The two years previous to this there were very light flows of honey, and during this time many bee-keepers lost nearly half of their bees, most of the loss being due to moths; before being noticed the hive would be literally filled with large, white larvæ, that would consume the honey, and even the comb. But, as I said before, this has been a fairly good season in this section, and I have taken from one colony 340 pounds of nice section honey, well filled and capped; besides 10 pounds in sections that were not filled or capped, making a total of 350 pounds. I would like to ask if this is not the best record that you have ever heard of from one colony; although out in California, where the honey-flow is better, and the seasons longer, they may beat this.

JOHN LENNEY.

St. Lawrence Co., N. Y., Sept. 14.

[Yours is certainly a good yield of honey, but we believe Mr. Doolittle once secured 566 pounds of comb honey from one colony in one season.—EDITOR.]

A Hive Roof and Shade.

Bees did well here until about July 1. July and August were so dry that they consumed a great deal more than they gathered during those two months. They gathered scarcely any pollen from the corn, which is generally a great source of pollen.

I will give a description of a roof for a bee-hive that I am using, and like it very much. Take barrel-staves from any barrel that has become useless for any purpose but kindling. Use one at each end crosswise of the hive to nail the other staves on. Then where the cracks are, nail on another stave. It is light and handy, and will turn the rain as well as the sunshine. Please do not understand that this is a lid or top for a hive, but a roof to turn the water and sun.

HARRY S. HARBOLT.

Clark Co., Ind., Sept. 9.

"Making" Natural Swarms.

In answer to Mr. Hasty's "Not unwise to hold the thing as an experiment until many brethren have had continued success in making all the bees stay" (page 569), here is a little experience I have had in that direction:

I started last spring with 41 colonies; I hived four swarms, knew of two or three going off, got one out of the rocks, so that I closed the season with 46 colonies; 6 or 8, however, for various reasons, did not do any good, either in honey or brood-rearing, for causes that are now remedied, but at the time I did not know what to do in the several cases. The rest were all very large, strong colonies, 2, 3 and 4 stories full of bees from top to bottom. I saw Mr. Doolittle's article on artificial swarming, in Gleanings in Bee-Culture, and I determined to try it on some of my very large colonies, before the main flow was all over, and just about the time I made my last extracting the latter part of July, I began. I found it a most difficult matter, in such large colonies, to find the queen to cage her. In a few instances I made the division without finding the queen, the bees indicating where the queen was; sometimes I saw her in the manipulation, but I found the queen if I could.

The first operation was quite successful; succeeding operations were equally successful, but having to allow the bees to rear their own queen, and not wanting to rush along until I could see how it would succeed, I waited to see the success of a previous operation before I tried the next. In this way time slipped by that I know I could have improved.

In these large colonies, after taking out the queen and a big, strong swarm, I had bees enough left for several more, but I waited until they had a new queen in full swing before I attempted another. I thought if this strong remainder could rear a queen for themselves, perhaps a smaller number could, and I could divide faster, so I took out two swarms and left a third on the old stand, taking care that the queenless portion had something to rear a queen from; the colony left on the old stand being left comparatively the weakest, for some might return, and field-bees came in so that this one was soon as strong as any of the others.

Later in the season I was not so successful in taking out more than the queen and one swarm, the queenless portion either going with the queen or back to the old stand; but if I could have had a new queen to have run in with them, I think they would have been all right. Then, as time went by, I found the drones disappearing, and I was afraid the young queens might not be fertilized, and I halted somewhat; some I gave queen-cells.

Recently I found one colony with a good many drones—two frames nearly all drone-cells, and full of eggs, and one frame of worker-comb with just-hatched larvæ, all of which seemed odd to me at this season, though it may be all natural.

I made my last division Sept. 14, putting in a cell about ripe with the queenless portion. In all I found the bees "staid" put, the queen almost invariably going immediately to work, and brood-rearing started off at once, the most trouble being to get new queens in that portion that was queenless. As I said before, I think if I could have had a new queen to have given at the time of the division it would have been better. I lost two of such new colonies, one that had a queen and one that had none, mainly, I think, because I did not give them honey enough at the time of the division. I had plenty of honey in other hives, and ought to have kept closer watch and changed frames so all would have had enough, the main flow being over, and not enough coming in to keep them going.

If I could do it over, with the experience I now have, I could have at least half as many more as I now possess, which is 81. All seem to be doing nicely now. I expect to have to watch closer to see that all have feed, but even in winter in this climate we have days that it is safe to look into the hives.

During the main flow my colonies were big and strong, and gave me about three tons of extracted honey, and at its close I had lots of bees to divide.

A. J. BURNS.

San Diego Co., Calif., Sept. 17.

Once More the Mulberry.

Oh, that wicked brother, Hasty? He, too, must needs consider his cunning little stomach, just like all horrid men. Hence, his greater faith in mulberry jam. "Ya, I believe me!"

Well, I shall not urge him, or any one else, to accept the views I have stated regarding the honey product from white mulberries. It is the privilege of all to doubt. Indeed, I esteem it a wise provision of Nature that we may feel uncertainties regarding many things if, happily, we are thereby stimulated to investigate and thus lay bare the facts. If what I have written on the subject leads to intelligent efforts to arrive at the exact truth,

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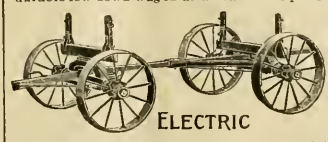

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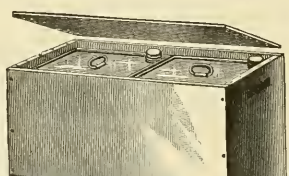

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The finest of their kinds produced in this country.

Read Dr. Miller's Testimony on Alfalfa Honey:

I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more marked flavor, according to my taste. C. C. MILLER.

McHenry Co., Ill.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

I shall feel abundantly repaid for the expression of my convictions.

Also, let me state that I sowed some of the white mulberry seeds the middle of last month (August), and that at this date (Sept. 20), the plants from those seeds are an inch high, and look vigorous. This is only another way of suggesting that the readers can as readily propagate their plants at a nominal cost for seeds. I hope to have seed to spare next July to give, with my compliments, to all bee-keepers, and to such others as may write for some. Postage is all that will be required. DR. PEIRO.

78 State St., Chicago.

Golden Honey-Plant.

I send a honey-plant which I desire named. There is much of it growing here on the bottom lands, and it is the greatest honey-plant we have in this part of the country. The nectar flows in it for about one month. It grows about 4 to 6 feet high. The honey from it has a yellow cast.

Our bees did no good this year in storing surplus honey. J. L. BADER.

Coffee Co., Kan., Sept. 20.

[The plant in question is the famous Golden honey-plant—Actinomeris squarrosa—and belongs to the great Composite family. It grows tall and branching in rich, loamy soil, and is a boon to the apiarist. Prof. Cook, in the "Bee-Keepers' Guide," page 371, mentions the plant as possessing great attraction for bees. Many other composite flowers are good honey-producers, such as the boneset, asters, goldenrod, etc.—C. L. WALTON.]

Honey-Dew on the Hickory Leaves.

EDITOR YORK:—I send some shellbark hickory leaves for your inspection. They were plucked at 11 o'clock a.m., covered with honey-dew (?). For weeks the hickory leaves have been covered mornings with this stuff, sometimes so thick it would run down and fall in big drops. The bees gather it industriously. Toward noon it dries up considerably, but I have some leaves on my desk that

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GUS. DITTMER, Augusta, Wis.

Please mention Bee Journal when writing.

have lain there till they are dry and brittle—over a week—and there is still honey (?) sticking on them. I have not found it on any other kind of leaves. It seems light in color—about like white clover honey—and perfectly clear. It has been so long since we had any rain that I don't know when it was. Bees have done no good here this season.

C. W. McKOWN.

Knox Co., Ill., Sept. 10.

[The leaves arrived while we were in Buffalo, but on our return the sticky sweetness could still be plainly seen on them. It must have been quite thick on the trees.—EDITOR.]

CONVENTION NOTICES.

Illinois.—The annual meeting of the Northern Illinois Bee-Keepers' Association will be held in the Court House in Rockford, Ill., on Tuesday and Wednesday, Oct. 15 and 16, 1901. All interested in bees are invited to attend.

Rockford, Ill. B. KENNEDY, Sec.

Utah.—There will be a meeting of the Utah Bee-Keepers' Association in the City and County Building, Salt Lake City, Utah, Oct. 5, 1901, at 10 a. m., to which all are cordially invited. Kindly inform other bee keepers and send the addresses of your neighbor bee-keepers. We also desire the address of all county bee-inspectors. A full program in the interest of the industry will be presented. Send in questions. Among other questions it is desired to consider, is a union of interests in the purchase of supplies and the disposing of bee-products at profitable rates. Yours in behalf of the bee-keepers,

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has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

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Colorado Alfalfa Fields 1000 colonies of bees wanted on shares, to be placed in yards of 200 in unoccupied territory. 26 years' experience.

39A2t W. E. BRAND, Fort Collins, Colo.

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SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white).....	$ .60	$1.00	$2.25	$4 00
Sweet Clover (yellow)....	.90	1.70	4.00	7.50
Alsike Clover	.90	1.70	3.75	7.00
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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Wanted.

Comb and Extracted Honey. Will buy your honey no matter what quantity. Mail sample of extracted, state quality of comb honey and price expected delivered in Cincinnati. I pay promptly on receipt of goods. Refer you to Brighton German Bank, this city.

C. H. W. WEBER,

2146-2148 Central Ave., CINCINNATI, OHIO.

40Atf Please mention the Bee Journal.

Wanted To Buy Honey

What have you to offer and at what price?

34Atf ED WILKINSON, Wilton, Wis.

Please mention Bee Journal when writing.

Wanted Fancy White Comb Honey in no-drip cases; also Extracted Honey. State price, delivered. We pay spot cash. FRED W. MUTH & Co., Front & Walnut Sts., Cincinnati, Ohio. Reference—German National Bank, Cincinnati.

40A5t Please mention the Bee Journal.

WRITE US

If you have large or small lots of HONEY to sell.

State quantity, how put up, kind of honey, price expected, and, if possible, mail sample. We pay spot cash.

REFERENCE—Wisconsin National Bank.

E. R. Pahl & Co.

40Atf MILWAUKEE, WIS.

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Wanted Comb and Extracted Honey!

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R. A. BURNETT & CO., 199 S. Water St., CHICAGO

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Sept. 18.—No. 1 white comb honey is selling at 15c per pound, with occasionally a little more being obtained for fancy, that which does not grade No. 1 selling at from 13@14c, with the light amber at 12@13c; dark honey of various kinds selling at 10@11c. Extracted in moderate demand at from 5½@6¾c for the various grades of white; some fancy white clover and basswood bringing 7c; light amber ranging from 5¼@5¾c; dark at 5@5¼c. Beeswax firm at 28@30c. R. A. BURNETT & Co.

CINCINNATI, Aug. 10.—The honey market is rather dull on account of the warm weather. Extracted sells only to manufacturers from 5@6c; better grades alfalfa water-white from 6@7c; white clover from 8@9c. Fancy white comb honey sells from 13½@15½c.

C. H. W. WEBER.

BOSTON, Sept. 27.—We quote our market as follows: Fancy white in cartons, 16c; A No. 1, 15c; No. 1, 14½c. Extracted, white, 8½c; light amber, 8c; amber, 6¾@7½c.

BLAKE, SCOTT & LEE.

ALBANY, N. Y., Sept. 19.—We quote: Fancy white comb, 16c; No. 1, 15c: mixed, 13@14c; No. 1 buckwheat or amber, 12@13c. Extracted, white, 7@7½c; light, 6½@7c; dark, 5½@6c. Beeswax, 28@29c. H. R. WRIGHT.

OMAHA, Aug. 8.—New comb honey is arriving by express in small quantities from Iowa and Colorado, and selling at $3.50 per case in a retail way. California extracted honey is being offered carlots at 4½@4¾c per pound, f.o.b. California shipping-points, but we have not heard of any sales having been made thus far. The production of extracted honey seems to be quite large this year in Colorado, Utah and California. PEYCKE BROS.

NEW YORK, Sept. 10.—Comb honey is now beginning to arrive in large quantities, and, as a rule, quality is fine. The demand is good, and we quote as follows: Fancy white, 14@15c; No. 1, 13c; No. 2, 12c; and amber, 11c No buckwheat is on the market as yet, but are expecting same within a week or so. Extracted is selling slowly, with plenty of supply, at 5@6½c, according to quality, and Southern in barrels at from 55@65c per gallon. Beeswax dull at 27c.

HILDRETH & SEGELKEN.

DES MOINES, Aug. 7.—There is very little doing here in new crop of honey. Some small lots of near-by produced comb honey are on the market and selling in a retail way at $3.50 to $3.75 per case. We do not look for much trade in this line before Sept. 1. Our market does not consume a great deal of extracted honey.

PEYCKE BROS. & CHANEY.

DETROIT, Aug. 12.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.

M. H. HUNT & SON.

BUFFALO, Aug. 10.—Quite a good demand for fancy honey, 16@17c, and lower grades, 12@14c; old neglected. Advise moderate shipments only of new as yet. BATTERSON & Co.

SAN FRANCISCO, Sept. 4.—White comb, 10@12 cents; amber, 7@9c; dark, 6@7½ cents. Extracted, white, 5½@—; light amber, 4½@—; amber, 4@—. Beeswax 26@28c.

Arrivals and spot offerings are of rather moderate volume, but there is as much or more on market than can be conveniently or advantageously placed. To secure liberal wholesale custom, prices would have to be shaded in favor of buyers. In a small way for especially desirable lots slightly higher figures than are quoted are realized.

KANSAS CITY, Sept. 14.—Up to the present time only small lots of new comb honey have been on the market, and these met with ready sale on the basis of 15@16c per pound for fancy white. For next week heavier receipts are expected and quotations are issued at $3.10@$3.25 per case for large lots, which would be equal to about 14@14½c; the demand being quite brisk, a firm market is anticipated. Inquiries for extracted are a little more numerous, but large buyers still seem to have their ideas too low. In a small way 5½@6c is quotable.

PEYCKE BROS.

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Untested, 75 cts.; Tested, $1.00; Select Tested, $1.50. Half dozen or larger lots as may be agreed on. Address,

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This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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RED CLOVER QUEENS

BLACK ROCK, N. Y., Sept. 3, 1901.

FRIEND ERNEST:—I will try and tell you what you want to know about that queen. I got her of you in 1899 as a premium with GLEANINGS. I never saw a small colony of bees build up as that one did. In the spring of 1900 they came out in fine shape, wintered perfect. I raised them up in May and gave them 8 frames more so the queen would not want for room. I never saw such a colony of bees as they were in June, and they were actually storing honey when other bees in my yard were starving. No! they were not robbing. I never saw those two best colonies of mine trying to rob. THEY CERTAINLY WORK ON RED CLOVER. This is no guesswork, as I have seen them. As you know, the past two seasons have been very poor, and what honey my bees did get in 1900 candied soon after cold weather set in. I packed this colony in a chaff hive and left them out, thinking that such a strong colony would winter perfect. The snow came on the middle of November, and those poor bees never a fly until the last of March or the first of April. When warm weather at last came I thought they were dead, as they did not seem to be flying much, so I did not pay any attention to them until in June. I noticed they were working a little, so I opened up the hive and found them in the upper story. I took the lower story out and left them in the one body. The queen was laying nicely, and I thought they would make a good colony to winter. Along the last of July I noticed that they needed more room. I gave them a super, 24 boxes, and in a few days they had it full. They have made 72 boxes of as nice honey as you ever saw, and are drawing out some starters now, Sept. 2.

Very truly yours, GEO. B. HOWE.

Prices of Red Clover Queens.

Gleanings in Bee-Culture 1 year and Untested Queen	$2.00
" " " Tested Queen	4.00
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If you want something good you can not do better than to order one of these queens. All orders are filled promptly. No extra postage on these to foreign countries.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., OCTOBER 10, 1901.

FORTY-FIRST YEAR
No. 41.

APIARY OF MR. C. L. KING, OF ANDERSON CO., TENN. —(See page 644.)

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DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

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To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

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How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

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AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., OCTOBER 10, 1901. No. 41.

Editorial.

Bee-Keeping in the West Indies is the title of a pamphlet of about 80 pages, issued in August of this year by Mr. D. Morris, Commissioner of Agriculture for the West Indies. It is written by Mr. W. K. Morrison, who was engaged for the purpose of preparing the booklet, after visiting several of the principal islands of the group. Mr. Morrison was formerly connected with the United States Department of Agriculture, and is specially fitted for such an undertaking. In introducing the pamphlet, Mr. Morris says:

"After a careful study of the circumstances Mr. Morrison is of opinion that the outlook for bee-keeping in the West Indes is very encouraging. At preseut, with the single exception of Jamaica, a bee-keeping industry can hardly be said to exist. At Grenada, St. Vincent, Barbados and Antigua a few bee-keepers were met with, but in the other islands, as at St. Lucia and Dominica, with an abundance of honey-bearing flowers to be found all the year round, little or no attention has been devoted to bee-keeping."

Mr. Morrison gives hints suited to bee-keeping in the tropics, illustrations of the more important implements required, a list of the principal nectar-yielding flowers of that region, and a glossary of bee-terms.

The hope is expressed that the pamphlet "will serve the objects in view, and that a bee-keeping industry of a thriving and permanent character will before long be established in these islands."

Cuba and Jamaica are foremost in bee-keeping among the islands of the West Indies.

The Honey Crop of 1901 in the United States seems to be a rather uncertain quantity, if we may judge from the reports that we hear from various parts of the land. In view of this condition of honey affairs, we requested Messrs. R. A. Burnett & Co. (whom we regard as the largest wholesale dealers in honey in Chicago), to furnish a statement for publication, giving their honest opinion concerning this very important subject. Here is their response:

CHICAGO, Sept. 27, 1901.

EDITOR OF AMERICAN BEE JOURNAL.—

There seems to be unusually conflicting accounts of the honey produced, and being produced, in the season of 1901. We are just in receipt of a special circular dated at Medina, Ohio, Sept. 25, entitled, "An Unmitigated Shame; More Monstrous Tales About the Prices on Honey." Inasmuch as this circular is to appear in the next issue of Gleanings in Bee-Culture, we will not quote verbatim therefrom, but in the letter that accompanies this the A. I. Root Co. says: "We believe that when you know the facts you will be governed accordingly." Now we quite agree with this statement—we certainly desire at all times to be governed by the facts, and all that we seek to know (and we judge it to be the same with other people) is, that we want to be sure we have the facts.

It is probable, from most reliable information that we get, that the Middle and Eastern States have produced more honey than for some seasons past, with the exception of southern Wisconsin and northern Illinois. Those localities suffered the most severely of any during the dry time that was so long continued in those localities; but even there, none of our correspondents claim they will not have sufficient honey to winter the bees, and it really looks to us as if there will be a surplus from the autumn flowers which have been profuse this autumn.

The State of Texas has produced more honey than California did in ordinary seasons 10 or 15 years ago; then, even Ohio has produced some honey; Pennsylvania, New York, and the New England States have had very good yields. Even the conservative Mr. Doolittle, of New York, admits that there has been an abundant flow of honey in his locality, and from sources that have not given honey for many years past. There have also been some unusually large yields per colony in different parts of the country; while in locations not far from those favored ones the yield has been light, thus showing that atmospherical conditions were not always the same over an entire State.

Furthermore, the producers in the less favored sections or localities early told of their failure to get a crop, thus carrying the idea to those who were more fortunate that perhaps they had all the honey there was to be had. This has tended to make holders of the favored apiarists, resulting in the honey being held off the market longer than usual, as they naturally expected higher prices even than prevailed last year, which season was the nearest to falling below a sufficient supply of any year in the past fifteen.

The Western States, especially Colorado, Nevada, and Utah, are finding that there is not the demand from the East that has existed for the past two years, and are beginning to get anxious about marketing their honey, in consequence of which the associations are making a broad canvass for a possible outlet at prices somewhat near those obtained last year.

If it is true that the newspapers of the country have been telling that there has been a great honey harvest secured this season, it will result in benefiting the producers more than anything else; for, let the public get the idea that honey is plentiful, good and cheap, and they will call for it as they would not otherwise do; for who amongst us does not feel more inclined to purchase an article when it is good and cheap, rather than when it is scarce and dear? We can see great help, if this be true, that the information is broadly circulated, that there has been an abundant harvest of honey, for people must use more of it this season than ever before if the crop of 1901 is to be marketed before the coming crop of 1902 is due.

We are of the opinion that prevailing prices are not too high, and that honey will be used freely, unless the people begin to believe that there has not been a good crop, but that it is scarce and dear, as, the terms "short crop" or "short yield" implies advanced prices to the average mind: hence they look for a substitute, which, once adopted, takes the place of the article that was scarce, until the time for another harvest.

We do not seek by the foregoing to advise people what to do with their property, but give it as our opinion, which, when compared with others, may enable those having honey to sell to ascertain what are the facts.

Very truly yours,
R. A. BURNETT & CO.

It will be noticed that Messrs. Burnett & Co. refer to a circular appearing in Gleanings in Bee-Culture. We have thought it best to copy it, so that our readers may have the advantage of both views. It is as follows:

AN UNMITIGATED SHAME; MORE MONSTROUS TALES ABOUT THE PRICES ON HONEY.

In our last issue I stated that there had been gross exaggeration as to the honey crop of the southern counties of California; but at that time the inflation buyers claimed a maximum output of only 500 cars; but now they have boosted it to 2000. As I have before stated, there seems to be a combination which has induced some of the daily papers to circulate such reports right and left. (In its best years, indeed the very best, the entire crop has not exceeded 500 cars, and this year was only fair, with less than half the bees to get the honey.) These glib falsifiers even go so far as to say, "This year's crop is estimated at 2000 cars;" that while the prices last year ruled at 8¼ cents, they are now down to less than half that, and they will probably have to go lower; and, as if to add insult to injury, they further state that Honolulu honey is being poured into California, and from there it is being sent East.

Such stories have a strong tendency to unsettle the market; and the animus back of it all is very apparent. The Western "bears" are anxious, of course, to have the prices go down. They know the crop is light; and then when they get the producers under their thumbs, they propose, no doubt, to scoop up the honey at a low figure, and then hold it until it advances.

Moreover, the Eastern buyers are being scared; and one man, whose honesty is above reproach, wrote, asking for my private opinion. He is a large buyer; and he says if these stories are true he would not dare to take on any more honey. But it is evident that there are some other men in collusion with the Western buyers who are anxious that these inflated yarns shall be scattered, because, forsooth, it will depress the Eastern market as well. If, for example, there were 2000 cars in California, and as much more of Honolulu honey, it would be perfectly clear that a large portion of it would have to go East. But no one need be alarmed over the matter. The facts are, I doubt whether 50 cars could be scraped up and sent eastward from California, all told. The large baking concerns have laid in quite a stock—probably all they will require; for when the price was down they snapped up every burgain they could get hold of; but now producers with business heads on them are holding the rest of the crop back.

For some weeks back we have been having men on the Pacific coast make a careful canvass; and it is very evident that the crop is light in comparison with those of some of the big years. I do not believe there is an aggregation of responsible producers anywhere in California who would guarantee to-

day to deliver more than 25 cars, and as nearly as we can estimate they are holding back till these exaggerated reports have run their course, and the market seeks its natural level. It is most unfortunate that these canards should have been started at this time; for this is usually the *very* season for disposing of honey, and it may take months to correct the false impression.

The situation in the East, briefly told, is this: There is actually less comb honey produced this year than last; and what there is, seems to be of an inferior grade. We have advocated in these columns repeatedly that bee-keepers are running too much for extracted honey in the East; at least, good comb honey sells all the way from 2½ to 3 times as much as extracted for a like quality. The market on extracted has become a little unsettled, owing to aforesaid "bears" who not only love honey, but are contriving to get it for nothing. Yes, we are even told that the markets of the East were being glutted; but some of our friends went into some of those markets to buy honey in car lots. Do you believe they could get any? There was not any in sight. To state the matter fairly, there is probably a fair crop of extracted honey of Eastern production; and the prices on extracted will, therefore, rule about the same as last year, for the same season of the year. Colorado honey is evidently being held until the market recovers itself from these conflicting statements. The crop has been lighter, and so far offerings that have been very meager are as high or higher than a year ago. There is only a moderate crop in Arizona—about 25 cars all told; and this is likewise being held for the same reason. Texas, one of the big honey States, will show up well; but much of its product will be marketed at home, while Arizona honey, a large portion of it, will have to be sold in the East.

Returning to California, latest advices show that the season has been a flat failure in the central portions of the State. Our men can not find more than three car-loads all told. In Southern California it would be a large estimate to allow for 75 cars, if the general reports we get are true, and they come from men who are not inclined to "bull" the market. I know they are very close to the truth, because I was through much of that territory myself, and perhaps two-thirds of the crop had been harvested.

I shall send copies of this statement, prepared this day, to all the large buyers whom I believe to be reliable and honest, and will seek their advice and help.

LATER.—Since the above was written one of the best bee-keepers in California, who was sent by a San Francisco firm through the best honey country around Los Angeles, to get samples and quantities of honey, writes, after a careful canvass, that he could scarcely find, all told, 250 tons (20 cars), and that he is informed by reliable parties, that the crop further south and east is very light. Moreover, he finds that some of the buyers, in the papers at Los Angeles, credit to a bee-keeper as many *cars* of honey as he has in tons. As to prices, the honey is being held firm at 5 cents *or more*. E. R. ROOT.

Like Messrs. Burnett & Co., we hesitate to advise those of our readers that have honey to sell, what to do about marketing it. And yet we think we are safe in saying that whenever you can get as good prices as those of last year, it would be well to accept them very promptly.

Having said that, we may also venture the opinion that before honey is higher in price again, it will likely go lower than the prices quoted now. This we believe because of the feeling that more honey is being held back by bee-keepers this season than in many a year before.

It is exceedingly unfortunate that there seems to be no reliable way in which to get at the exact amount of honey produced. Were that a possibility, the matter of prices could the more easily be controlled.

A Phase of In-breeding Among Bees—in which there is a difference as compared with other stock—deserves consideration. Where breeders of cattle practice in-breeding for the sake of fixing certain characteristics, they seem to prefer mating a heifer to her father rather than to her brother. There is a good reason for this. The father and mother of the heifer being of unrelated stock, the heifer is not of the same blood as either, but may be said to have half the blood of each; so when the heifer is bred to her father there is not as close in-breeding as when bred to her brother, which is of the same blood as herself. Now if we have a certain queen of superior blood from which we rear young queens, and then allow these young queens to mate with drones from the same mother, it might look, to a careless observer, the same as breeding the heifer to her brother. But parthenogenesis must be taken into consideration, and in reality it is the same as breeding the heifer to her father. For the drone is not of the mingled blood of his mother and the drone with which she mated, but he is of the same blood as his mother. If this year we stock our apiary with young queens from a certain queen, and the next year rear young queens again from that same mother, allowing them to meet drones of the queens reared this year, we will have practically the close in-breeding of brother and sister that would obtain in cattle-rearing, but the mating of a queen and drone from the same mother will not be so close breeding.

Weekly Budget.

THE CHICAGO BEE-KEEPERS' ASSOCIATION will hold its next semi-annual meeting on Thursday, Dec. 5, instead of Thursday, Nov. 7. This is the result of a meeting of the executive committee on Oct. 3. The date a month later was decided upon because of the Live Stock Exhibition to be held in Chicago Nov. 30 to Dec. 7. Low railroad rates will then prevail, which should help greatly to swell the attendance of bee-keepers.

Look out for a fuller notice by Secretary Moore, next week. In the meantime, begin to plan to be in Chicago Dec. 5. No effort will be spared to make it the largest and best meeting of bee-keepers in 1901—the recent Buffalo convention not excepted.

APIARY OF MR. C. G. HEALY.—In writing us about his bee-keeping, Mr. Healy had this to say (see page 648):

On May 22, 1900, I moved three small apiaries, one consisting of 52 colonies, another of 41, and another of 15, from Walworth Co., Wis., to Wood county, arriving at my destination on May 24.

Owing to poor seasons in Walworth county, and the losses sustained in moving the apiaries, they were in very poor condition when I arrived here. But as the season was very favorable the 108 colonies increased to 169, and I shipped two tons of comb honey.

I put the bees in winter quarters, Nov. 25, in an outside cellar. After regulating the ventilation to what I supposed to be right, I left them until spring, returning March 20, when I found the temperature to be 71 degrees in the cellar, and the loss at the outset 9 colonies. But because of the high temperature in the cellar during the winter many of the bees left their hives, clustered on the ceiling, and of course were lost. As a result I lost 63 colonies from spring dwindling, a total loss of 3 colonies more than the increase of last year. Those that are left are doing well, and at present there is a good outlook for a fair crop. C. G. HEALY.

Wood Co., Wis., July 8.

MESSRS. SALYER, HYDE AND SCHOLL—the officers of the Texas Bee-Keepers' Association—were shown on page 609. Since then we have received a few personal items concerning each, which, unfortunately, were delayed so they could not appear in the issue with the pictures.

All three of those in question are yet young men, Mr. Salyer being the only one married. Messrs. Hyde and Scholl are just out of their teens, and not yet of age; nevertheless all three have done a great deal for Southern bee-keepers, and perhaps there are not many such "youngsters" that have gained so much fame.

Mr. Salyer was vice-president of the Central Texas Bee-Keepers' Association the last two years, until elected president of the new State association at the last meeting. He has been in the bee-business for many years, combining it with farming and stock-raising, as he has fine herds of cattle.

Mr. H. H. Hyde has been in the bee-business ever since nine years old, helping his father during summer and attending school during winter. As the junior member of O. P. Hyde & Son, and at the head of the queen-rearing department of that firm, besides being an interesting and instructive correspondent to the bee-papers, he is already well known to the bee-keepers of our land. He is of a temperate disposition, abhoring the use of all intoxicants and tobacco. Mr. Hyde is a member of the Baptist church. At home he has held several minor offices of trust, and has been assistant secretary of the Central Texas Bee-Keepers' Association, at the last meeting elected vice-president.

Mr. Louis Scholl has been actively engaged in apiarian association work for several years. At the age of 17 he was chosen as the association's secretary-treasurer, and to keep him as such, certain clauses in the constitution of the association, restricting an officer to only one year's term, had to be ruled out. He has held his office ever since that time.

His bee-keeping career began while yet quite young, and, on account of his studious habits, he has mastered more about the honey-bee than many another of his age; and if he lives the bee-world may yet hear more about him. He has already made great strides towards enviable notoriety, especially among the bee-keepers of the South. His contributions to apicultural literature have appeared from time to time.

Mr. Scholl is a total abstainer, and an earnest Christian.

Under the able, conscientious management of these three men, the Texas State Bee-Keepers' Association should flourish "like the green bay tree."

APIARY OF MR. C. L. KING.—The picture shown on page 641, was taken from the south-east end of Mr. King's bee-yard. He and his little boy are standing near the center, his father at the right, and his brother at the left. Mr. King has on a bee-veil of his own make. He never wore a veil until this season. Mr. King has kept bees since 1893, and likes it well. He has about 75 colonies, but the past season has been the poorest for honey that he has ever seen in Tennessee.

Convention Proceedings.

(Continued from page 631.)

Report of the Texas Bee-Keepers' Convention.

BY LOUIS SCHOLL, SEC.

BEGINNERS RUINING THE HONEY-MARKET.

"How can beginners best be educated how not to ruin a market for those more experienced?"

D. C. Milam said the selling of honey is the most important subject connected with our industry, the important part being that it depends upon that which brings the cash on which success is based. By producing a first-class article, it should be put up in the best marketable shape, and so as to attract the attention of buyers. The price seems to be almost universal over Texas. Beginners should be taught all this; especially when an experienced bee-keeper has a market established, he should see to the beginners. Teach them. Either help them along, buy their honey, or help them to establish a market for it. When beginners have a surplus of honey during a good year, *they just want to get rid of it*, and then they do harm through their ignorance.

The demand for Uvalde honey is so great that it has never been filled. Of course, while their honey is of such fine quality as to have such a wide reputation, they also have some very inferior honey, from a few localities. Some of it is not even edible, and if it should be put on the market, it would ruin it. Such must never be done, for any person that should happen to eat such inferior stuff would lose all desire for any more honey. Some make a big mistake by extracting too soon, before the honey is well ripened. He cited a case where some honey was bought in barrels, by a dealer who handled honey extensively, and opening a barrel at one time, the vile stuff shot out all over his person and dress, and made him feel so badly that he could not even bear to think about honey—so much so that not *one pound* did he ever buy again. Besides this, he gave several other experiences.

He also spoke about organization and the prices of honey. Then all the honey could be bought for a little less per pound to sell again for enough to make sufficient for the trouble, and thus it would save much to the experienced bee-keeper, especially those that have a good market for their product. He said that all honey put up for sale should be a first-class article, and every package should contain the name and address of the producer, to show that it is such. He also told of a firm that bought and sold any kind of honey, just as it would happen along. But that firm does not sell any more now.

W. O. Victor's experience has been quite varied. He related a case where a large bee-keeper sold his honey, of fine grade, for 10 cents per gallon less than wholesale prices, and that in his home market, which ruined his entirely. He tried to buy the honey from this bee-keeper, offering him the real wholesale price, which was 10 cents more per gallon than his wholesale price, but he refused to sell, for the reason that he had to supply his customers with honey.

WHAT IS THE BEST RACE OF BEES?

W. O. Victor said he believed he was perhaps not well informed on the different races of bees, he having begun with the Italians; they treated him so well that he stayed with them. He never had any other race in his yards, and hardly knows which is the best race of bees. He told of the many "strains" of Italians, and how they could be bred to possess some of the good qualities. He spoke about certain strains of Italians, the bees of which start to run all over everything whenever a hive is opened. These he calls "race-horses" on account of their running, and thinks it the proper name for them. These he culls out as soon as he can.

The *dark*, leather-colored Italians he thinks the best, as they are the gentlest bees, sticking to their combs, and for honey-gathering they are the best all-around bees, always ready when honey is to be had, watching even for the buds to open, so that the first sip of nectar might be taken. Some of the other strains are so vicious that he is afraid of them, for the reason that they are dangerous.

He also touched on the long-tongue hobby and believes there is something in it, as there are so many flowers with long corolla-tubes, requiring a longer tongue-reach to get all of the nectar out of them. He has tested bees possessing long tongues, and although some with longer tongues did no better than some with shorter tongues, yet he thinks that long tongues are no disadvantage, for those with the longest tongue-reach outstripped anything in his yards in storing honey. The three-band Italians averaged longer tongues; while the goldens have some of the very shortest, blacks not excepted.

O. P. Hyde—What is meant by different strains of Italians? It seems that there are only the three-band Italians and the "Golden" Italians.

Mr. Victor meant by different strains of Italians, the difference of management and selection by certain breeders, causing a different strain of Italians in the end; by always selecting another that produce certain traits, would cause a strain, in the end, possessing those traits, and different from other strains bred on other lines.

Others spoke on this line, and the great difference there is in the daughters of the same mother.

Mr. Atchley said that much depends upon locality, as to which is the best race.

For all-around purposes the three-band Italian is the bee, and especially for his locality, if restricted to a pure race. Cyprians and Holy-Lands he thinks best for localities where strong colonies of bees are needed through the greater part of the year, as their queens are so prolific that they keep up rousing colonies all through the season. He is an old friend of the three-band Italian, but not for comb honey, as they so crowd out the queens in the brood-nest. They are all right for only one flow, as a rule, for, by crowding out the queens, there is no force of bees to secure the honey of later flows. Hence, for a locality with more than one flow, queens are desired that keep a "standing army" all the time, and this will be a race of bees with queens so prolific that, if a queen is removed from a colony, laying workers will take her place at once, their desire for brood-rearing being so strong. These would be Holy-Lands or Cyprians; and, besides, he thinks that their wings are stronger, and the bees have more power, thus making them better for gathering honey, than others.

Questions were asked, what to do when bees crowd out the queen in the brood-nest. Some advised putting empty combs in the middle of the brood-nest, between combs of brood, to let the queen lay in them. Others, again, objected to this, as such combs were sometimes filled with honey even there.

Mr. Atchley cited the experience of his son, Charlie, who runs their apiary of three-band Italians. He had had trouble with these putting all the honey into the brood-combs instead of the supers above. So he tried a new idea, that of putting the super *below* the brood-nest, and there it was.

So Mr. Atchley thinks that if we might strike out the right way, we might succeed all right with the three-band Italians.

H. H. Hyde asked if a cross between the three-band Italians and Holy-Lands or Cyprians would not be a good one. Mr. Atchley answered that it would.

L. Stachelhausen said that it took different races for different localities, the three-band Italian not being good for his place, as there are not enough bees left for the flows that follow the first one. It might be best to cross them.

H. H. Hyde told of his experience with different races and their average yields, the best being from Holy-Lands. The Italians choked the brood-nests too much.

Mr. Victor said that plenty of room given during slow flows does not give any trouble. Supers should always be given a little ahead of time for the flow to begin, and the brood in the brood-chamber should extend from side to side, so the bees are bound to store above. Then always give a little more room than needed.

MISCELLANEOUS MATTERS.

Upon motion of Mr. Davidson, it was decided to send four representatives to Buffalo, N. Y., in September, to represent the Texas Bee-Keepers' Association, at the meeting of the National Bee-Keepers' Association. Udo Toepperwein, G. F. Davidson, Louis Scholl and H. H. Hyde were elected as such representatives.

W. O. Victor was appointed a committee of one to prepare a program for the next meeting.

The committee on "Resolutions and Petitions" handed in their report, which was adopted.

The South-Texas Bee-Keepers' Association, meeting in conjunction with the other associations, asked that they be allowed sufficient time to transact some of the Association's business, and to elect officers for the ensuing year; also to decide upon a place to meet the next year. Officers elected for the coming year: E. J. Atchley, president; W. O. Victor, vice-president; W. H. Lewis, secretary.

The next place of meeting will be at Beeville, Tex., on the first Wednesday and Thursday in September, 1902.

The committee judging the bee-keepers' exhibits handed in their report of awards, as follows:

AWARDS AND WINNERS.

COLLEGE STATION, July 25, 1901.

By Louis Scholl, Secretary-Treasurer, Texas Bee-Keepers' Association.

Single-comb nucleus, Golden Italians, 1st prize, $2.50—O. P. Hyde & Son.

Single-comb nucleus, 3-band Italians, 1st prize $2.50—O. P. Hyde & Son.

Single-comb nucleus, Holy-Land, 1st prize, $2.50—O. P. Hyde & Son.

Sweepstakes on bees, greatest number of different races, 1st, Surprise package of valuable articles—O. P. Hyde & Son.

Best section comb-honey exhibit—1st, one-comb honey hive—G. F. Davidson; 2d, Golden breeder queen—J. B. Salyer.

Best sample case section honey, Special, 50 cents—G. F. Davidson.

Best bulk comb-honey exhibit—1st, 5 cases honey-cans—G. F. Davidson; 2d, Golden breeder queen—J. B. Salyer.

Best sample bulk comb honey, Special, 50 cents—G. F. Davidson.

Best extracted honey exhibit—1st, 5 cases honey-cans—G. F. Davidson; 2d, Holy-Land breeder—J. B. Salyer.

Best specimen extracted honey, Special, 50 cents—G. F. Davidson.

Best exhibit beeswax—1st, solar wax-extractor—Louis Scholl; 2d, Apiary tool-chest—J. B. Salyer.

Best sample cake bright yellow wax, Special, 50 cents—Louis Scholl.

Best display honey-plants, pressed and mounted, 1st, Brass Higginsville smoker—Louis Scholl; Special 50 cents—Louis Scholl.

Largest and best display apiarian implements, 1st, Cash prize, $5.00—Udo Toepperwein; 2d, Foundation fastener—O. P. Hyde & Son.

Sweepstakes, largest, best and most interesting and instructive exhibit, all things considered, 1st, Cowan honey-extractor—Udo Toepperwein; 2d, cash prize of $10—O. P. Hyde & Son.

Best exhibit bee-keepers' supplies, 1st, blue ribbon—Udo Toepperwein; 2d, red ribbon—O. P. Hyde & Son.

The other business was then all settled, and just before adjournment, upon the entering into the room of the bee-keepers' section of the Farmers' Congress, of Prof. Connell, he was presented with a case of beautiful white section comb honey, by the Association, from Mr. G. F. Davidson, with very appropriate words by Mr. Atchley. Prof. Connell accepted the same with words showing very pointedly how this kindness was appreciated by him, and he thanked them all for their kindness.

The convention then adjourned.

J. B. Salyer, *Pres.* Louis Scholl, *Sec.*

Contributed Articles.

Queen-Breeding—A Review of the Subject.

BY ADRIAN GETAZ.

JUST now, in some bee-papers, a certain class of critics have chosen to criticise our queen-breeders severely, intimating that they don't know the fundamental principles of the art. Some have even intimated that a college course of study should have been taken, or at least a full study of Darwin, Huxley, etc. Exactly what advantage a college education in Greek, Latin, baseball and higher mathematics would be to a queen-breeder, has not been shown. It is even questionable if a full knowledge of Huxley's and Darwin's theories concerning the "Origin of Species" and "Descent of Man" would be of any use at all.

Again, the fact that our leading queen-breeders are not filling the bee-papers with learned (?) contributions on the subject, is not at all a proof that they are a lot of ignoramuses. Some of them undoubtedly know a good deal more than their critics suspect. The fact is, that these critics who speak so learnedly (?) about in-breeding, and other similar topics, do not seem to know so very much, after all; and while they have succeeded very well in criticising *what is done*, they have lamentably failed to show *what ought to be done*.

To-day it is raining, and I have nothing pressing to do, so I will take my chances and dabble into the subject, running the risk of showing my own ignorance just for the fun of it.

HEREDITY.

It is hardly necessary to say that heredity is a short word to state the fact that any living being is similar to his father and mother, or ancestors. So a cat is a cat similar to his ancestors. A plant of corn is similar to those that furnished the grain from which it grows, and the pollen which fecundated the grain. (In writing this I use common words in place of scientific terms, as far as possible).

VARIABILITY.

But the offspring is never the exact image of its ancestors. There is always some minor difference, sometimes one way, sometimes another, sometimes in one particular, sometimes in another—in size, color, different aptitudes, etc. It is that disposition that enables us to improve our stock. For instance, suppose we want a stock of cattle especially good for producing milk, we first begin by choosing the best milking cow procurable, and a bull a descendant also of good milking stock. In virtue of heredity, their descendants will be generally better milk-producers than any kind of cattle taken at random. In virtue of the variability, some will be better, and some not so good, some may be even better than their immediate ancestors, and some may be worse. We choose the best, those, if possible, better than their immediate ancestors, and repeat the process again and again. Eventually we will get a stock superior in aptitude to produce milk.

It is almost needless to say that all our noted breeds of stock—cattle, horses, chickens, dogs, etc.—have been produced, I might say created, by that process.

SURVIVAL OF THE FITTEST.

This is called a theory and often criticised or made fun of. But it is a fact, not a theory. Let me give some examples: Suppose some deer were put in a country where there are wolves. Suppose some very fleet on foot and some quite slow in running. The wolves will undoubtedly catch up with and kill the slow runners. The fleet-footed will escape and breed. The result is that the next generation will average a better running stock. Of these, again, the slowest will be destroyed, the quickest remain. The result is that eventually a swift-running stock will be the result.

Take the quails and partridges. They may have been of any and all colors at the beginning. But the bright-colored ones were the easiest to see, and were caught by the hawks and other enemies. The brown and gray remained. The striped ones, as we see them now, are the least distinguishable from the brown earth and dead grasses, and finally remained alone. In domesticity, where all are protected, all colors stand an equal chance, except what choice the breeder may make.

ACQUIRED QUALITIES.

Not only the peculiarities inherent to the animals themselves at their birth, but also those acquired, are, at least to a certain extent, transmitted to their offspring. Take, for instance, the pointer dogs. The first were evidently trained to that mode of hunting birds—a very unnatural one. Their descendants, or rather some of them, inherited that disposition, at least, to some extent. The best were chosen, and more thoroughly trained, and the process pursued until now we have a breed of dogs in which it has become a second nature. There is no doubt that the thoroughly trained race-horse stallion transmits to his offspring his acquired qualities as well as those he possessed at his birth.

TRANSMISSION.

There are some laws governing the transmission of faculties and peculiarities from ancestors to descendants.

1. The same circumstances and environments tend to preserve the characteristics of animals from generation to generation, while a change will increase the tendency to variations.

2. This can be expected if we consider that the peculiarities of the animals were formed under those circumstances and best adapted to them in virtue of the law of the survival of the fittest. But let the animal be put in a

different position—for instance, a wild animal be domesticated—and variations in size, color, disposition, etc., will appear at once.

3. The more alike the father and mother, the more strongly and surely will their characteristics be transmitted to their offspring. And if they are very different, all sorts of variations may be expected.

The more *fixed* the characteristics and peculiarities, the more surely will they be transmitted. A "sport"—that is, an animal or plant showing some extraordinary peculiarity—is not at all sure to transmit it to its descendants, while the "fixed" qualities will nearly always be transmitted.

A fixed characteristic is one that has been transmitted from generation to generation either through the natural operation of the survival of the fittest or through the choice of the breeder.

IN-BREEDING.

That is, breeding between close parents or relatives. This is said to be injurious to vitality. The fact is quoted that in natural process of reproduction of plants and animals, in-breeding is avoided. On the other hand, all our best breeds of horses, cattle, fowls, etc., have been obtained by in-breeding. Numbers of bulls and stallions have done service as long as they lived, with their own mothers, grandmothers, daughters, granddaughters, etc.

One thing is certain, in breeding from close relatives, we breed from animals having the same characteristics and same peculiarities, and, according to the above rules, such will more likely be transmitted, and even intensified; for the *fixing* of a characteristic generally intensifies it. Now any defect which that breed may have, will thereby be fixed and intensified until it may eventually endanger or destroy the very life of the animals themselves.

INFLUENCE OF THE MALE.

In breeding horses, cattle, etc., it is found that the male has more influence on the offspring than the female. This is due in a great measure, if not altogether, to the fact that the male used is of a superior stock, with qualities better fixed and more intense than those of the females. If the process was reversed, that is, if the females were of the improved stock, and the males of the common stock, the reverse would probably take place. In the human race we do not see that the children inherit more characteristics from their father than from their mother.

INFLUENCE OF THE FEMALE.

The horse-breeders tell us that the male gives the quaiities and the female the size. That is true, more or less, of all the animals that are developed in the mother's womb, but more of the horse than any other.

All those familiar with horse-raising know that a colt at his birth has nearly the full length of his legs; and that when full-grown his height (if he has not been stunted by lack of food or other hindrance) is about twice the length of his fore legs. It is easy to see that the colt born of a large mare has a start at his birth that he will keep during all his growth.

In plants and animals born of eggs or seeds, such an advantage does not occur.

In bees. the size is limited also by the size of the cell. It is a well-known fact, that drones born in smaller cells than the regular drone-cells are smaller in proportion to the size of the cells.

AS TO BEES.

In our attempts to improve our races of bees, we have to meet several difficulties that do not occur in other lines:

1. We have not the same control of the reproductors. If we desire to improve a herd of cattle we have the choice of the very individuals. We choose the best cow, and a bull descended from a superior stock. In improving our stock of bees, we want to improve the qualities of the workers. But we can not use the workers themselves. We have to fall back on their mothers, and use for reproduction drones and queens *whose mothers* have produced *good workers, and take our chances.*

2. We have only an imperfect control of the drones, and if we could breed from an individual drone of our choice, how could we tell that this drone would give better workers than that one? There is nothing to show. At best we could eliminate the weakest and undersized one. The only point where "hand-picking" of drones could help is in regard to color. The yellowest drones will undoubtedly produce the yellowest workers.

3. We are to work in the same line as Nature. In improving cattle, for instance, in getting up a good milking stock, we are developing a quality that in the wild state was completely undeveloped, hence we can obtain wonderful results. In the wild state, the animals (something like the Texas steers) have developed chiefly hardiness, health and strength. If we were to take the Texas stock and try to increase the same qualities of hardiness, strength, etc., we would make but little headway, because Nature has already developed them almost, and perhaps up, to the limit attainable.

In bees, what we want chiefly is hardiness and honey-gathering qualities; that is, the very qualities that Nature has been developing for thousands of years, and we may expect that the limit has been nearly reached, if not altogether. We may perhaps increase the size of the bees and length of tongue.

CONCLUSION.

After all is said and discussed, all that is to be done is to get the queens and drones from the very best colonies obtainable, and rear the cells under the most advantageous conditions of warmth, feed, etc. It is needless to say that undersized or defective queens (and, if possible, drones) should be rejected.

That's all. Knox Co., Tenn.

Size of Hives Not Necessarily in Accord With Laying Capacity of Queen-Bees.

BY G. M. DOOLITTLE.

A CORRESPONDENT writes thus: "I would like your opinion regarding the size of hive to use. Should I adopt the eight-frame Langstroth hive, so generally recommended, the same would, if entirely occupied with worker-comb, contain about 1168 square inches, and give about 58,900 cells. From this we must deduct at least ten percent of the space for the usual supply of honey and pollen, leaving about 52,500 cells. Allowing 21 days from the egg to the time the bee emerges from its cell, and one day for the bees to clean the cell and for the queen to lay in it again, we have an average of about 2400 cells for the queen to fill per day. Now, is 2400 eggs the utmost daily laying capacity of a queen in a strong colony? If not, should any queen be restricted to that amount when she could and would lay more? I ask these questions to help me determine what size of hive to build the coming winter. Please answer in the American Bee Journal, so it will appear in time for me to decide what size to make my hives."

I did not know that it was necessary to make our hives, as to size, to accommodate the prolificness of the most prolific queens, nor do I so think. Suppose that a queen could lay 5000 eggs daily, on an average, as some think possible. What is the price or worth of those eggs? Does the sum and substance of bee-keeping depend upon keeping all queens employed at egg-laying to their fullest capacity? Bees, when they come on the stage of action at just the right time, are very valuable, but eggs are of no value, only as they tend in the direction of producing these valuable bees. Aye, they tend toward positive disadvantage, and, to take away the value we already have, only as they look toward the end of producing the required bees in the field at the time of the honey harvest. Here is a point often lost sight of by the large-hive advocates.

Eggs cost practically nothing; but as soon as the bees begin to perfect them toward other bees, then they begin to cost; and if this perfecting is going on to any great extent at a time when the perfected product is placed on the stage of action, either before or after their presence in large numbers is needed, we not only have the cost of perfecting to pay for, but the cost of their consuming, after being perfected, as well. This consuming part we always have to pay for; but we willingly do it at any time when the production of the individual bee is greater than what it consumes. But I can see no object in doing this at any other time, simply that the extra laying capacity of any queen may be gratified. A hive that is large enough to gratify the greatest aspirations of very prolific queens, at the times of their greatest aspirations, will have too much capital lying idle in it the largest share of the year, and be a bungling, unwieldy hive besides.

From all past experience I think that 2400 eggs per day would be a good maximum average for any queen. Rain, cold, or other disturbing influences often retard the activity in the hive, and of the queen, and thus it happens that at times the best of queens often does not lay more than 1000 eggs in a day, while, with the right conditions, she may multiply this number by four, and still have plenty of room in a hive which will give an average of only 2400 daily.

Then, again, as two and one-seventh generations of bees can be brought on the stage of action to where one steps off, we find that, in a hive giving an average of 2400

"WOODLAND APIARY" OF C. G. HEALY. See page 644.)

bees daily, we can have in that hive, barring accidents, if the hive is properly managed, 108,000 bees on the stage of action right in the honey harvest, when their productive power is the greatest; and at such a time such a number of bees are a host to roll honey into the sections, with the combs all filled with brood below; and this rolling of honey into the sections means the rolling of money into the bee-keeper's pockets, from which come the necessities, comforts and luxuries of life.

Experience has shown the men who are advocating an eight-frame Langstroth hive that such is the best, as this keeps the frames full of brood, and puts honey into the sections.

Again, suppose a colony of bees having a good, prolific queen is given 30 Langstroth frames, using but eight to start with, and adding two or three at a time, as the bees can occupy them, until the 30 are all in, it will be found that such a queen will lay from 4500 to 5000 eggs daily, during the best part of the egg-laying season, and die of old age or exhaustion when from 12 to 18 months old; while with the eight-frame brood-chamber she will give as good results in comb honey each year, and live from three to four years. With the large hive the bees are quite likely to get the start of the queen, and commence to store honey in the brood-combs before entering the sections at all, and in such cases the bees seem loth to go into the sections, but continue to store honey in the brood-chamber in preference to going into the sections, thus crowding out the queen with honey, in the combs which ought to be occupied with brood, till we have, as a result, very little section honey in the fall, and a colony in poor condition for winter. Besides, it is well to remember that all queens are not equally prolific, and while 20 percent of our queens would keep the brood-chamber of a ten-frame Langstroth hive properly supplied with brood to give the best results in section honey, the other 80 percent would not be prolific enough to do so; hence, in the majority of the hives in the apiary, we should have a condition working against our best interests, which could not be overcome by the extra amount of comb honey produced by the 20 percent, whose queens were prolific enough to work in these ten-frame hives to advantage.

For these reasons it would seem best to adopt a size of brood-chamber which any and all queens, that are worth keeping at all, would have occupied with brood at the commencement of the honey-flow, thus securing the best yields of surplus section honey at all times.

Because a queen may lay 5000 eggs daily by using plenty of comb-capacity and coaxing, it does not necessarily follow that it is to the best advantage of the apiarist to accommodate or even coax a queen to bring her fullest laying capacity to the front at any time. Queens, in any well-regulated apiary, are among the smallest part of the expense incurred, while labor, hives and combs go toward making up the largest part of the same.

For these reasons I claim that the capacity of the queen should rather be above the capacity of the brood-nest than below it, so that all combs may be fully occupied with brood before the honey harvest arrives. Unless this is the case, the outside combs continue, in most cases, to be dead capital (honey) from year to year. However, all our questioner (or any one else) has to do is to use part ten-frame and part eight-frame hives in the apiary, when a little time will satisfy him which is the better for his locality.

Onondago Co., N. Y.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

ANCIENT HONEY IDEAS.

Glad to meet the Pythagoras and honey story with as old a date as 1575, and in a shape that can be believed. Undoubtedly scholars might live on *bread* and honey indefinitely. And Dr. Muffet, of 1575, thought honey, good for rheumatism. And in the house in which I live a man with a lame back thinks he must leave off eating honey of which he is very fond. "Many men, etc." The ancient doctor is right, that the healthfulness of honey is improved by heat (that is, by heat properly adjusted): but he is wrong to go to such extremes as to deny the healthfulness of all unheated honey. I wonder what he means by honey "puffed out of the comb." Some verbal error has crept in very likely—otherwise it sounds like some anticipation of the extractor. In "straining" honey the last obtained is not as good as the first, and I guess that is what he is really at. Page 555.

BEES EJECTING THE WATER OF NECTAR.

I hardly know whether or not it is worth while to pitch into Prof. Cook some more about his positive opinion that bees never eject the water of nectar while on the wing. Where shall they eject waste water then? in the hive? or shall they go to the Washington Monument to leave it? His argument about the impossibility of the thing is just too awfully thin. The water of our own blood holds lots of things in solution; but for all that nature can get it out very quickly if there is too much of it, or if something has got to come out that will not come unless much water comes along. If nectar had a less percentage of water than the blood of the bee, *then* we could see that the problem of getting the water away from the sugars and throwing it outside might be a difficult one. It is probably rare for nectar to have such a low percentage of water. Through a wide extent of very thin membrane, *made a-purpose*, the water of the blood and the water of the nectar equalizes rapidly. Then the water in the blood is largely in excess of what it should be, and the proper organs go to work throwing it out as fast as they can—nominally urine, but practically pure water. But of course that's only the way it looks to Prof. Hasty when he looks at it in a hasty way—he never even made the observations himself, merely accepted them from others. Page 548.

ORDINARY AND EMERGENCY QUEEN-CELLS.

What's the matter with "ordinary cells" as a term to designate queen-cells built when a queen is being superseded, and swarming cells also? The Boiler is right, page 558, that "swarming cells" is an exceedingly inapproprtate term for the former. I didn't think I had any quarrel with "preconstructed" and "post-constructed;" but "ordinary" and "emergency" might please non-literary brethren somewhat better. Well, yes—six letters shorter, and no alphabetical hair parted in the middle, ought to count as something with all of us.

ALFALFA HONEY AND FLAVOR.

Perhaps it is only poor rhetoric (in the Saturday Evening Post) but it's hardly accuracy to say that alfalfa has a "certain degree" of sweetness not found in the other clovers. Say, rather, alfalfa honey has a character of its own distinct from the others; or say it often excels in the quantity of its yield, if that is what is meant. Page 558.

BROWN SUGAR FOR BEES.

Some of W. K. Morrison's theorizing in favor of brown sugar for bees sounds well; but the matter is rather important, and the present impression of intelligent bee-men is nearly unanimous the other way; so I guess we must call for experiments and experience before we all reverse judgment. Page 558.

SNEAK-THIEVING DURING A HONEY-FLOW.

It is something in the nature of a shock to be told that quiet sneak-thieves prey heavily on strong colonies in the midst of a honey-flow. Very likely they *could*, as bees in flush times are quite tolerant; but the first thing we want to know is whether it is to any great extent a fact. I don't believe it is in my yard. If a bee did start out to work on

such a low moral level I should rather expect him after awhile to transfer his nationality to the more prosperous nation, and next to offset things by carrying stealings in the opposite direction. Page 563.

TRADE BULLETIN QUOTATIONS.

I should suspect that the trade bulletin of a big city would be less reliable on honey prices than the leading honey-dealer of that city—liable to print the figures of somebody's guess, or figures adjusted from one sale at abnormal prices. Page 563.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

MOTHER.

This is surely the most precious word in the home circle. I am reminded of a sweet, wholesome, delightful story that I lately read in a magazine. An acquaintance of a motor-man was riding with his friend on a trolley car as the latter guided and directed it through the streets of our great metropolis. He noticed that the car ran very smoothly, unusually so. In starting and stopping and in making the numerous turns he was not thrown or pushed or handled at all roughly as is the wont so frequently in our rides on the electric cars. He asked his friend, the motor-man, why this consideration was meted out to the fortunate rider on this special car. His friend explained as follows:

After he had run the car for a time his mother came to keep his home for him. He longed to show her his power and hoped she might take long rides with him on his car every day. He proudly took her with him the first day after her arrival, and to give her a rare treat he gave free rein to the current that was silently and invisibly hurling them over street and along roadside. Her mother-love and consideration for her dear boy led her to conceal a mortal fear, and serious pains and aches, as she was pushed, knocked and jammed hither and thither as they flew around bends or stopped and started in a break-neck fashion.

On the morrow she as studiously concealed her aches and pains, and serious lameness. He was saddened, and greatly disappointed, that his precious mother wished no more to go with him, as this would turn his work into pleasure, and rare pleasure if it would bring joy to his beloved parent. Finally he learned through a third party, of the shock and inconvenience which his mother had received on the occasion of that first ride. He was dumb with sorrow, chagrin, and contrition. He successfully urged a second ride, and now his care more than equaled his previous rashness. Caution made the start and stop so gentle that those riding felt no jar; the turns were so skillfully made that no push was felt. The fond mother felt no fear, and suffered no harm or inconvenience. She now takes daily rides to the joy of both her own and her son's heart. The son added: "In all of my trips now, I wonder if some other's mother is not in my keeping, and so the crank and levers are ever pulled to check the jar and lessen the shock as the turns are made or the speed varied."

Oh! how few mothers really know or realize the wondrous influence they exert to make the world brighter and better.

THE CALIFORNIA RED-HEADED WOODPECKER.

This is one of the several beautiful California birds that belongs to the order Pici. These birds are quickly known, as two toes oppose two others on each foot, which enables them to hold fast to fence-post or tree-trunk. Their beak or bill is a well-fashioned chisel, by which they gouge out the hole that leads to grub, or fashions their nest. Their long tongues are barbed that fishhook-like they may catch and pull out the coveted grub or caterpillar. Mr. and Mrs. Red-head are alike capped with red, and, like many other birds, as instanced in blackbirds and robins, are quite exclusive in their attentions the one to the other.

Mr. Woodpecker's name is not Roberts. He would not be excluded from his seat in Congress, if elected thereto. Mr. and Mrs. Red-head have a pretty and most interesting habit, working together most delightfully and industriously. They bore numerous holes in quite regular form and position into the great mountain pines. They then hie away to seek the rich, nutritious acorns which they crowd one into each hole, so compactly that one needs his knife to loosen them. Often a very large acorn is such a misfit that the hole must be greatly enlarged, and then one of the pair holds the nut while the other makes a sort of a bee, calling on other birds to aid. As soon as the hole is sufficiently large, all return to their own work except the two that then adjust the acorn snugly, and proceed with other nuts. Later, as food is scarce, these nuts are eaten, and form many a hearty meal for this faithful and deserving man and wife bird.

THE OJAI.

Queer word is that. We pronounce it O-hi'. It means "eagle's nest." It is the name of one of the most lovely spots in California, a veritable basin or nest, whose rim is the lovely wooded mountains which encircle it on all sides. It is in Ventura County, hardly more than a half score of miles to the north of "Ventura by the Sea." In its nest-like form it is like San Jacinto Escondido, where I am now writing, and El Cajon. The Ojai, however, is peculiar in fondly bearing numerous great, spreading, beautiful live-oaks. Their nest-like valleys, which nestle at the very feet of a great ring of mountains, more beautiful when wooded, with trees and shrubs, are exceedingly lovely. They hold the fortunate people who call them home, with a fascination that makes them ever afterward impatient of any other home. I never feel more close to the verge of envy than when I visit these gems of mountain scenery. I often find my lips whispering: "Oh! always to look upon this grandeur."

BOOTS THAT SHINE.

It is my privilege as conductor of farmer's institutes in Southern California, to be much with the professors of that institution, of which every Californian is so justly proud. In California, where we have little or no rain from April to October, the dust gets very assertive. To keep one's boots resplendent with an immaculate shine is no mean accomplishment. One of my colleagues, who happens to be my companion for these two weeks, has that exceptional faculty. He tells me that Mrs. —— often holds him up to the children—their two boys—as an example that they should the better copy. He tells her that in his youth the shine was not so constantly in evidence, but she replies that his mother says not so. We know that the child is father to the man, and I ween the dear, fond old mother is quite right. As we wear our boots in childhood, so we are apt to continue till the locks whiten. How blessed the mother who can always say: "Do as thou seest thy father do," in her efforts at discipline.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Questions on Nectar-Yielding Plants.

I want to keep a few colonies of bees, and want to provide a pasture for them. What is the most durable and quickest seeds to sow?

How long does it take buckwheat to come into bloom after coming up (with seasonable weather)? How long does it stay in bloom? Is it fit to cut and feed to stock?

Alfalfa down here doesn't yield any honey.

What is the difference between white sweet clover and white clover?

I had about an acre of crimson clover in the spring which the bees worked on as long as it lasted. I had the seed mixed with alfalfa, but it was no good. Is there anything you can suggest? TENNESSEE.

ANSWERS.—Answering your questions somewhat out of their exact order, I can not say how long it is from coming up till bloom of buckwheat, never having taken exact observations, but should say at a guess from memory, three or four weeks might not be out of the way. But that guess may be considerably out of the way. As to length of blooming season, my guess would be also three or four weeks. Very likely both of these guesses might be lengthened. The blooming season is very often closed by the

first frost. I think buckwheat is never cut up and fed to stock, but the grain is harvested.

The difference between white clover and sweet clover is about seven feet. White clover grows close to the ground and has its blossoms as globular heads like red and crimson clover; white sweet clover grows tall and has its blossoms singly all over the bush. Very likely sweet clover and crimson clover will be as good as anything you can sow. Crimson blossoms early, and probably closes about the time sweet clover comes in bloom, and the latter will bloom till after several frosts. If harvested for hay before t comes in bloom, the full blooming will be later than if eft to its own course.

Queer Idea About Rye Flour and Bees.

How do you fix rye-flour for bees to make comb for their hives? I can not find any one that knows anything about rye flour. I have read that they make comb out of rye, but I don't know what to do. I have a quantity of rye flour. GEORGIA.

ANSWER.—I think you must have been misinformed. Rye flour is used sometimes as a substitute for pollen, but not as a material from which comb can be directly produced. Bees make comb only as it is needed, and it is honey more than pollen that is used in its production. It will be wise to feed rye flour to bees only in the event of a scarcity of pollen, and you can most likely make a better use of your rye flour than to feed it to bees.

Swarming of a Divided Swarm.

After making a divided swarm, as described by Mr. Doolittle on page 478, is there danger of them swarming any more that season, provided they are supplied with enough supers and sections to keep them from getting overcrowded? LOUISIANA.

ANSWER.—I should say there was no more danger of swarming than the danger in the case of a natural swarm.

Honey-Dew for Winter—Insuring Bees.

1. I have 48 colonies with plenty of bees and honey, but I am afraid they will not winter well, as they have gathered considerable honey-dew, or bug-juice, if I may call it such. My bees have been working on honey-dew all through the month of September, and I think it will last as long as the weather stays warm enough for the bees to work. Will they winter all right if I use a Hill's device and a chaff cushion over them, and packed on the outside with forest leaves on both sides and back about four inches thick?

2. Is there such a thing as insuring bees against loss in wintering in this locality? If so, where and what do they usually charge per colony? Say from Nov. 1 to May 1. ILLINOIS.

ANSWERS.—1. There is a great deal of difference in honey-dew. Some of it will do well for winter stores, and some of it is little better than poison. It would be impossible to say which kind your bees are getting, but if bees have generally wintered well in your locality you may be on the hopeful side, for it is quite likely that they have had the same thing in other years.

2. I don't know of any such insurance, but will yield the floor to any one who does.

Queen-Introduction—Pure Italian.

1. I was rather unfortunate in my queen-rearing during the late summer. Out of 14 queens emerging during June and the early part of July, all but two were missing before they began to lay; after that they did better. I had to give some colonies three cells before I got a queen to lay, and in one case I had to introduce a bought one. The weather during the early part of summer was very cool; in only five or six days up to nearly the middle of July did the highest temperature reach 70° Fahr., and it was seldom much over 60°. Do you think that would account for the loss of queens? If not, what would?

2. I have bought three queens and introduced them safely, but I noticed, in one case, on two occasions, where I looked into the hive, a number of cells with two, three, and, in a few, four eggs; on the last look I saw worker-brood capped over, looking all right. Would you consider that queen a faulty one?

3. I think I saw recently in one of your answers that if a drone was dark it was not pure Italian. I got a tested queen last year from a well-known firm, and while all the workers have the three bands, the drones are quite dark, some showing a dash of dark gold and some none. Would you consider that queen pure Italian? BRITISH COLUMBIA.

ANSWERS.—1. Weather seldom warmer than 60° and never more than 70° would be enough to account for your loss.

2. It is not very unusual that a queen on first introduction after a journey in the mails does something out of the common line, and afterward does her work in good shape. It is just possible, too, that the workers rather than the queen were at fault. If bees were few in number, and if the queen was a good layer, she might need more room to lay than the space covered by bees, in which case you might find a plurality of eggs in a cell. At all events, if you later found sealed brood in regular order you need have no anxiety.

3. If I used language to give you the impression that I thought a dark drone was proof of impure blood, I advise you not to put too much reliance on the statement. The looks of either queen or drone can hardly be taken as a test of purity. Some excellent Italian queens have been very dark, and the same may be said of drones. The workers are the ones by which purity is judged.

Don't Feed Sugar to Complete Sections.

1. I have 20 supers about half full. Can I mix honey, sugar and water and let the bees finish them? If so, what proportion of each would be best?

2. There are plenty of drones flying now. What does that indicate? INDIANA.

ANSWERS.—1. Don't think for a minute of using even the smallest proportion of sugar to finish sections. Just now about the greatest foe bee-keepers have to fight is adulteration, and for them to band together in a national association to fight it, and then feed sugar themselves to get sections finished would be about as consistent as is the Christian man who prays 364 days in the year for the downfall of the saloon, and then on the 365th day votes to support it. If you want to feed to have sections finished, use diluted honey. Very few, however, have been able to make it pay. Better sell at reduced price sections that are not finished, and let the bees empty out any that are less than half full. Pile up outdoors supers of sections you want bees to empty, and allow entrance for only one or two bees at a time. If you allow a larger entrance, the bees will tear the comb to pieces.

2. It does not have any special significance; at least it may not. Sometimes colonies that have a good queen will suffer drones to continue. At the same time it may be that some colony or colonies have laying workers or drone-laying queens.

Killing off Drones.

What is the cause of drones in some of my colonies? One of the strongest has lots of them. They are killing off the drones this early, Sept. 24. INDIANA.

ANSWER.—There is nothing strange about it. The strongest colonies would not feel in so much of a hurry to kill off their drones as the weakest ones, especially if the strongest ones had queens and were superseding them.

German or Italian Queen.

Is the queen enclosed herewith a genuine German, or is she crossed with Italian blood? CALIFORNIA.

ANSWER. I don't know. You can't decide by the looks of a queen as to her blood. You must have her worker progeny to judge by. I have seen imported Italian queens as dark as the sample sent, while their worker progeny were beautifully marked with the three yellow bands.

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GENERAL ITEMS

Bees in Fine Condition.

The honey season is over, and the bees are in fine condition for winter. Our crop was 23 tons from 300 colonies, spring count, and increased to 425 colonies. Two of us did all the work, and found time to do considerable on the farm besides. L. L. ANDREWS.

Riverside Co., Calif., Sept. 11.

Bees and Pear-Blight.

I notice in the American Bee Journal an item in regard to bees spreading pear-blight. I see some think the bees spread it, and some think they do not. I am of the latter opinion. I have an apiary of 11 colonies in the orchard. Last year the blight appeared on every pear-tree I had but the Bartlett and another late pear; this year some of the trees died almost to the roots, while some of the Bartletts blighted just a little. What makes me think the bees do not spread the blight is, a tree that stands close to others that died, does not show a bit of blight, and is loaded with fruit; and a tree of the same kind, about 20 yards away, died clear down. Another instance is a seedling I let grow some distance from the others; it did not have a blossom, and never did. It took the disease, and died. Now, if the bees spread the blight why did this tree and any other Bartlett, not take it? All were loaded this spring, even to those that died, showing the bees had worked on them, if it is true about fruit needing bees to cross-pollinate. And why did the seedling take it? Can you answer that?

Cutting off the diseased parts seems to stop the disease to some extent here.

Latah Co., Ida. F. C. HOLBROOK.

Poorest Honey-Year in Nine.

We have no surplus honey here this season, but bees are doing well now. It is the poorest honey-year we have had in central California in the nine years I have lived here.

J. W. STEELE.

Merced Co., Calif., Sept. 1.

Troubled With Grasshoppers.

The bees in this part of California have done no good, hardly made a living. In fact, I fed mine until the latter part of June, but I am pleased to say they are doing well now, and filling up with brood. They did no good until the latter part of August. The cause, I think, was grasshoppers on the alfalfa fields; the fields were literally covered with the little jumpers, and the bloom blasted. The bees would sit out on the alighting-board and act as if they were looking for a job. But now that is all changed; they are out by the time the sun is up, flying hither and yon, gathering the nectar from the alfalfa and carpet-plant. Most of the grasshoppers have disappeared.

I have just received the American Bee Journal: it is full of good things for the bee men and women. I like it very much; in fact, it is almost indispensable. I have tried the straw for rubbing, and find it very good. It has stopped it every time for me.

MRS. ARTIE BOWEN.

Merced Co., Calif., Sept. 2.

The Seasons of 1899 and 1901.

I wish to remind the bee-keepers of the Mississippi valley what educators to us the years 1899 and 1901 have been—1899 with no surplus honey from clover, but plenty to keep up good strength from July 1 to late fall, which gave us about 40 pounds of nice comb honey from heartsease—a plant which thrives so well here, and nearly always yields nectar plentifully. This fine crop was gathered all because the colonies were strong at just the right time.

Because of a severe drouth, 1901 has yielded only a light crop from clover, ending two weeks earlier than usual, leaving nothing of much account for bees to work on from July 15 to Aug. 5, a period of 20 days, when very few eggs were laid by the queens—a period just when all queens should have been filling every available cell with eggs. So our bees came up to an abundant flow from heartsease with only a little over half the strength maintained in 1899, which has been, to me, a loss on every 100 colonies of at least $300, which could have been remedied if foreseen. Stimulating to activity from July 15 to Aug. 5 would have done the job, and with little expense, as I believe the feeding could have been done outdoors in paralined troughs at intervals of three days, and a substitute for pollen given. However, some honey has been obtained wherever colonies showed fair strength, and where any colony was very strong 40 pounds of nice honey in the comb is the result anywhere among my yards.

Who will be the first to inform us of a certain race or strain of bees that will always be strong and ready for gathering honey from Aug. 15 to Sept. 20? FRANK COVERDALE.

Jackson Co., Iowa, Sept. 12.

Fleabane—"Old Grimes."

I send a sample of a plant on which the bees are now working. It is of low, bushy habit, not unlike our common sagebrush.

The honey crop here is decidedly short.

I wish "Old Grimes" would take up his pen again: his articles were practical.

E. F. ATWATER.

Ada Co., Idaho, Sept. 18.

[Perhaps "Old Grimes" will take your hint, Mr. Atwater, and "wake up" again.

Our botanist reports as follows:—EDITOR.]

Here is another good honey-plant, the fleabane, belonging to the famous Composite family. If this and many other plants hailing from this justly prized family were scattered freely over the State of Idaho, our good brother would never complain about the honey crop being "decidedly short."—C. L. WALTON.

Short Honey Crop.

The honey crop here is small this year. I wish all bee-keepers could be induced to take the American Bee Journal, as they are not informed on the honey market, and ruin the market for me. But, you see, those are some of a bee-keeper's pleasures.

CLYDE CADY.

Jackson Co., Mich., Sept. 23.

A Fairly Good Bee-Season.

This has been a fairly good bee-season here. I started with 20 colonies in the spring, and have increased to 50. I have just taken off about 400 pounds of honey.

There is quite a large acreage of red clover in this section, which affords good bee-pasturage. I appreciate the American Bee Journal very much, and owe much of my success with bees to knowledge gleaned from it.

J. A. WATKINS.

Latah Co., Idaho, Sept. 15.

Of the Evening Primrose Family.

I send a sample of leaf and blossom of a weed that grows sparingly around here, on which bees work profusely, and from which I believe they gather both pollen and honey. I do not know, and have found no one who does know what it is. It grows about like goldenrod in size. My attention was first attracted to it by the hum of the bees on it. It is undoubtedly a fine bee-plant, and I would like you to tell me through the General Items column of your excellent paper what the name of the weed is, and your opinion as to its value, as I wish to save seed if it is considered a good honey-plant.

I have kept bees myself for five years, my father keeping them till I commenced, and my grandfather always kept them. I have

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taken and read with great pleasure the American Journal for about four years, and I have enjoyed its weekly visits immensely.

I have only 15 colonics, but I am prepared to increase when spring comes again. Not boasting at all, but I have the name of keeping the nicest apiary, and being the best informed bee-man in this section, and I give the credit to the American Bee Journal, as that is where I get my knowledge.

This has been an exceedingly poor honey-year in northeast Missouri, owing to the drouth that has prevailed since in April. Yet I am not as those who have no hope, and forgetting the things that have passed I look forward for better seasons and greater blessings.

Long live the American Bee Journal!

H. S. CARROLL.

Shelby Co., Mo., Aug. 3.

[The plant belongs to the Evening Primrose family. Its botanical name is Gaurga biennis, and it goes by its first name—Gaurga.

Writers on honey-producing plants do not speak of it as being especially productive, but bees are not easily deceived, and if they are interested in the flower no doubt it is furnishing them honey or pollen, probably both.—C. L. WALTON.]

Bees Did Fairly Well.

My bees have done very well this year, considering the very dry summer we have had, with only a few local showers since April 17, and none to do much good. We have taken nearly 500 pounds of comb honey from 7 colonies.

White clover yielded well until killed by the drouth. Persimmon bloom also was full of nectar. There was a good deal of honey-dew this summer. A man told me that when he cut his wheat the reel on the machine spattered it over him, and that his horses' legs were sticky with it. Some of the people here say that it comes down like mist.

My first swarm came out April 27, and went into an empty hive without clustering. They sent out a swarm Aug. 21, and as there was no one at home, they left for parts unknown.

Most of the bee-keepers here are of the old-fashioned kind, and some of them feed their bees corn-bread. MRS. R. R. TITUS.

Wright Co., Mo., Sept. 21.

Introducing Queens.

Without desiring to provoke further discussion in respect to the matter of love, hatred, or selfishness, in the honey-bee (see page 598), I wish to say that it surprises me that any one should take seriously what was said on pages 405 and 406 respecting these attributes, and attempt to disprove my position. It was distinctly stated by me that neither position is tenable. It is my belief that such qualities belong to a higher order of beings. That love, hatred, generosity, selfishness, are all attributes which inhere to mankind, but not to any of the lower animals.

Then, so far as I am concerned, that matter is disposed of.

In regard to introducing a queen, it is no doubt true that an expert would succeed after taking the necessary precautions in running her into the entrance, but such practice is not in accordance with the instructions given in any work upon the subject which has come under my observation: yet, it doesn't follow that it can not be done; in fact, many things are done with bees out of the ordinary way with success. However, as was said before to the *beginner*, don't try any such experiment with a valuable queen. Wait until you have become better acquainted with the business. Follow the instructions given in the recognized works upon the subject. WM. M. WHITNEY.

Kankakee Co., Ill.

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Handling Disease-Infected Tools.

Some have written us that, even after they had used the McEvoy treatment for handling foul brood, the disease broke out again. Many bee-keepers do not realize, in spite of all that has been said, the importance of having everything that comes in contact with foul or black brood either burned up or shut up in a tight box or room where bees can not get at it. Metal tools, such as screwdrivers, pries, etc., should be put on a bed of live coals for a few seconds—not long enough to draw the temper, but to destroy everything in the way of microbes that may still be hanging about the articles. Smokers should be painted over with a strong solution of carbolic acid, and the fire-cup can be disinfected by making a good, hot, roaring fire in it. Division-boards and bee-feeders, and things like that, should either be immersed in boiling water and kept there for a time, or should be dipped in a strong solution of carbolic acid—one part of the acid to fifty of water. When I speak of the acid I refer to the crystals, and not to the solution that is ordinarily obtained at the drug-stores.

In burning old combs I would first make a good bonfire and get a lot of live coals; then lay the combs on top of the coals one by one. But do not put them on too fast; and as a further precaution (for the wax sometimes runs down into the ground without becoming sufficiently heated) I would bury the ashes and the ground under them. Put them so far below the surface that neither plow nor spade will ever dig them up.—Gleanings in Bee-Culture.

Shallow Frames for Comb Honey.

The tendency among expert bee-keepers is toward a shallower frame than the standard Langstroth. Some others prefer the Langstroth because it has always given good results. But the other class consider that the frame given us by the father of American bee-keeping is a little too deep. They desire a frame just shallow enough so that there will be no honey, or very little at least, stored in the brood-nest. Said Mr. Vernon Burt:

"With my shallow frames I often have no more honey in them than the size of a silver dollar; and I estimate that, if my colonies had all been in the shallow hive, I should have secured 20 pounds more per colony."

This is a strong statement, but Mr. Burt says he is ready to verify it by showing the piles of honey that have come off the shallow frames and the amounts that have come off the deeper ones. While he does not claim the bees would store any more honey in one hive than in another, if we *include both the super and the brood-nest*, yet he says that, in-

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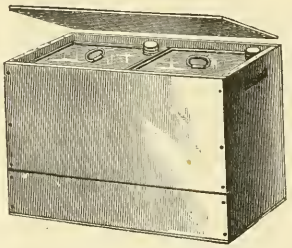

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I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more marked flavor, according to my taste.

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We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

stead of there being from 25 to 30 pounds of honey left in the brood-nest, which he does not want there, that amount all goes into the supers, where he does want it, and where he can command the very best market price obtainable. When I asked Mr. Burt if it was not desirable to have honey in the brood-nest, he said it was not, according to his practice. "I prefer," he said, "to sell my honey, what I do get, at 12 and 15 cents, and then buy syrup at 3 or 4 cents; and I not only make a good trade, but I give the bees a much better feed. While good honey does very well most winters, yet there are occasional ones when the syrup-fed colonies come out much better. No, sir," said he, very emphatically, "I do not want any honey in the brood-nest in late summer. I prefer to feed sugar syrup, for then I *know* my bees have the very best food for winter."—Gleanings in Bee-Culture.

Some Points in Indoor Wintering.

Some that are of interest are given by Mr. Darling, in the Canadian Bee Journal. Formerly great stress was laid upon the covering in winter, so that the right amount of upward ventilation could be secured; but of late many are coming to the conclusion that Mr. Darling has reached, that it is not a matter of special importance how the air is introduced into the hive, only so there is enough of it, and if plenty of good air can enter below, the upper part may be as tight as a drum. Mr. Darling says:

In regard to packing, I have used sawdust and corkdust. I have not tried wintering outside at all; I live where it is too cold—too near the North pole—but for years I took off the propolized sheet and put on a cotton cushion filled with sawdust or corkdust (I brought the sawdust from the sawmill and the sash-factory), and I fail to see very much difference in their effect, only I thought the sawdust from the sawmill was not quite as warm, and the corkdust is a little drier. There is so much evaporation from bees that if you take a little piece of lath and leave it lying on top of the cushion, without any cover on at all, if you lift that piece of lath up any time after it has been there a few hours, there will be a wet spot on that cushion the size of that piece of lath. If nothing touches the cushion it is dry all winter long, and the sawdust is dry. Lift the cushion and put your hand under it and it is warm and cosy on top of the sheet, if there is a sheet underneath.

I had formerly tight bottom-boards, and that is the reason I took off the propolized sheet. Lately I have taken off the bottom-board, left the propolized sheet on, and put the cushion on; that allows no moisture to get through, but I raise up my hive at the front—I don't like going to the back to let them down—and I find that they winter just as well and better than they did without the propolized sheet, and with the bottom-board tight there is no danger of there being any dampness above, and my combs and bees are not as damp as they were when the boards were fastened.

Queens Fertilized in an Upper Story.

Our Mr. Wardell, the man who has charge of our 700 colonies, has evolved a system of having queens fertilized in upper stories, that is a perfect success. I do not speak of it because it may be new, but because it gives excellent results. He tried it to some extent last year, and now, after having tested it thoroughly the *whole season* with scarcely a failure, we are pleased to recommend it. By his plan he succeeds in getting three queens fertilized in one upper story at a time; that is to say, there may be three virgins, all of which will be fertilized within the usual time. The method is this:

He takes an ordinary Langstroth upper story, and divides it off lengthwise into three bee-tight compartments of equal size. On the under side of this story and a bee-space below the frames he tacks a sheet of wire-cloth. The partitions come in contact with

wire-cloth at the bottom, and the cover at the top thus making each little room separate and bee-tight. On two sides and one end are entrances, one entrance communicating with each compartment.

This super, as constructed, is now put on over a strong colony, wire-cloth down next to the bees. Into each of the compartments he puts two frames of bees, brood, and honey. He then inserts a queen-cell, or lets run into each a virgin queen. The cover is put on, and the bees are left to their own devices. He now has practically three 2-frame nuclei, each one with a cell or virgin queen right over a strong colony, the only separation being the wire-cloth. And right here is the feature that makes it a success: The old methods have used perforated zinc, while Mr. Wardell uses wire-cloth. Now for results:

These young queens fly out from the entrances from the upper story, are fertilized, and come back. If cool weather comes on it does not make any difference, because there is a large amount of heat from the cluster of bees below that rises up through the wire-cloth.

The great feature in favor of this method is that, in the fall, or at the close of the season, when it is desired to unite the bees, and the young queens have all been sold from the upper story, all one has to do is to remove the wire-cloth from the two stories, and let the bees run together. They all have the same scent, and there is no fighting.

This scheme has also another advantage: It economizes room in the yard, and brings the nuclei up to a nice height for the apiarist to work. We also make one colony do the work of three nuclei; and if honey is coming in, the colony can store just the same; but, of course, the frames of honey would have to be removed as fast as filled with honey. If one of the nuclei runs short of brood, all that is necessary is to remove the upper story for a minute or two, take out the empty comb from the nucleus, and substitute it for a frame of brood from the colony below. Set this, bees and all, into the nucleus, replace the upper story, and all will go on as before. There will be no fighting, because, understaud, the bees are all of the same scent.—Gleanings in Bee-Culture.

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The best of farm lands can be obtained now in Marinette County, Wisconsin, on the Chicago, Milwaukee & St. Paul Railway, at a low price and on very favorable terms. Wisconsin is noted for its fine crops, excellent markets and healthful climate. Why rent a farm when you can buy one much cheaper than you can rent, and in a few years it will be your own property. For particulars, address, F. A. MILLER, Gen'l Passenger Agent, Chicago, Milwaukee & St. Paul Railway, Chicago. 39A3t

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CONVENTION NOTICE.

Illinois.—The annual meeting of the Northern Illinois Bee-Keepers' Association will be held in the Court House in Rockford, Ill., on Tuesday and Wednesday, Oct. 15 and 16, 1901. All interested in bees are invited to attend.

Rockford, Ill. B. KENNEDY, Sec.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)....	$ .60	$1.00	$2.25	$4.00
Sweet Clover (yellow)....	.90	1.70	4.00	7.50
Alsike Clover	.90	1.70	3.75	7.00
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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Comb and Extracted Honey. Will buy your honey no matter what quantity. Mail sample of extracted, state quality of comb honey and price expected delivered in Cincinnati. I pay promptly on receipt of goods. Refer you to Brighton German Bank, this city.

C. H. W. WEBER,
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What have you to offer and at what price?
34Atf ED WILKINSON, Wilton, Wis.
Please mentior Bee Journal when writing.

Wanted Fancy White Comb Honey in no-drip cases; also Extracted Honey. State price, delivered. We pay spot cash. FRED W. MUTH & Co., Front & Walnut Sts., Cincinnati, Ohio. Reference—German National Bank, Cincinnati.
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Wanted Comb and Extracted Honey!

State price, kind and quantity.
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Wanted—Honey.

Car Lots or otherwise; will pay highest market price, spot cash. Address, stating quantity, quality, and price desired at your station. Will send man to receive when lot is large enough to justify. THOS. C. STANLEY & SON,
31Atf FAIRFIELD, ILL.
Please mention Bee Journal when writing.

An Old Friend.—Among the very first of the incubator and brooder concerns of the country to advertise in our columns was the "Reliable," of Quincy, Ill. Although a number of years has passed since their first advertisement appeared in our paper, there has not been a year since that first time when they have not been with us during the regular advertising season. It affords us, therefore, more than usual pleasure to state that they will advertise with us again this season, and their announcement appears on another page of this issue. Our relationship with these people has been most pleasant through all these years, and while we feel that our paper is the means of doing them much good, we also know that they have done much good to our readers. The Reliable goods are reliable in works and results as well as in name, and those of our readers who contemplate the purchase of machines of this class can do no better than to buy the time-tested old Reliable. Their 20th Century Catalog is, as usual, a work of great value. Write them today for a copy. Address, Reliable Incubator and Brooder Co., Quincy, Ill., and mention this paper.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Sept. 18.—No. 1 white comb honey is selling at 15c per pound, with occasionally a little more being obtained for fancy, that which does not grade No. 1 selling at from 13@14c, with the light amber at 12@13c; dark honey of various kinds selling at 10@11c. Extracted in moderate demand at from 5½@6½c for the various grades of white; some fancy white clover and basswood bringing 7c; light amber ranging from 5½@5¾c; dark at 5@5¼c. Beeswax firm at 28@30c. R. A. BURNETT & Co.

CINCINNATI, Aug. 10.—The honey market is rather dull on account of the warm weather. Extracted sells only to manufacturers from 5@6c; better grades alfalfa water-white from 6@7c; white clover from 6@7c. Fancy white comb honey sells from 13½@15½c.

C. H. W. WEBER.

BOSTON, Sept. 27.—We quote our market as follows: Fancy white in cartons, 16c; A No. 1, 15c; No. 1, 14½c. Extracted, white, 8½c; light amber, 8c; amber, 6½@7½c.

BLAKE, SCOTT & LEE.

ALBANY, N. Y., Sept. 19.—We quote: Fancy white comb, 16c; No. 1, 15c; mixed, 13@14c; No. 1 buckwheat or amber, 12@13c. Extracted, white, 7@7½c; light, 6½@7c; dark, 5½@6c. Beeswax, 28@29c. H. R. WRIGHT.

OMAHA, Aug. 8.—New comb honey is arriving by express in small quantities from Iowa and Colorado, and selling at $3.50 per case in a retail way. California extracted honey is being offered carlots at 4½@4¾c per pound, f.o.b. California shipping-points, but we have not heard of any sales having been made thus far. The production of extracted honey seems to be quite large this year in Colorado, Utah and California. PEYCKE BROS.

NEW YORK, Sept. 10.—Comb honey is now beginning to arrive in large quantities, and, as a rule, quality is fine. The demand is good, and we quote as follows: Fancy white, 14@15c; No. 1, 13c; No. 2, 12c; and amber, 11c. No buckwheat is on the market as yet, but are expecting same within a week or so. Extracted is selling slowly, with plenty of supply, at 5@6½c, according to quality, and Southern in barrels at from 55@65c per gallon. Beeswax dull at 27c.

HILDRETH & SEGELKEN.

DES MOINES, Aug. 7.—There is very little doing here in new crop of honey. Some small lots of near-by produced comb honey are on the market and selling in a retail way at $3.50 to $3.75 per case. We do not look for much trade in this line before Sept. 1. Our market does not consume a great deal of extracted honey.

PEYCKE BROS. & CHANEY.

DETROIT, Aug. 12.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.

M. H. HUNT & SON.

BUFFALO, Aug. 10.—Quite a good demand for fancy honey, 16@17c, and lower grades, 12@14c; old neglected. Advise moderate shipments only of new as yet. BATTERSON & Co.

SAN FRANCISCO, Sept. 4.—White comb, 10@12 cents; amber, 7@9c; dark, 6@7½ cents. Extracted, white, 5½@—; light amber, 4½@—; amber, 4@—. Beeswax, 26@28c.

Arrivals and spot offerings are of rather moderate volume, but there is as much or more on market than can be conveniently or advantageously placed. To secure liberal wholesale custom, prices would have to be shaded in favor of buyers. In a small way for especially desirable lots slightly higher figures than are quoted are realized.

KANSAS CITY, Sept. 14.—Up to the present time only small lots of new comb honey have been on the market, and these met with ready sale on the basis of 15@16c per pound for fancy white. For next week heavier receipts are expected and quotations are issued at $3.10@$3.25 per case for large lots, which would be equal to about 14@14½c; the demand being quite brisk, a firm market is anticipated. Inquiries for extracted are a little more numerous, but large buyers still seem to have their ideas too low. In a small way 5½@6c is quotable.

PEYCKE BROS.

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Send 25 cents for a year's subscription to our Journal, and we will send book, Plans for Poultry-Houses, free. Six months trial subscription to Journal, 10 cents.

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A New Bee-Keeper's Song—

"Buckwheat Cakes and Honey"

Words by EUGENE SECOR.
Music by GEORGE W. YORK.

This song was written specially for the Buffalo convention, and was sung there. It is written for organ or piano, as have been all the songs written for bee-keepers. Every home should have a copy of it, as well as a copy of

"THE HUM OF THE BEES in the APPLE-TREE BLOOM"

Written by
EUGENE SECOR and DR. C. C. MILLER.

PRICES—Either song will be mailed for 10 cents (stamps or silver), or both for only 15 cents. Or, for $1.00 *strictly in advance* payment of a year's subscription to the American Bee Journal, we will mail both of these songs free, *if asked for.*

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The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

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Please mention Bee Journal when writing.

RED CLOVER QUEENS

BLACK ROCK, N. Y., Sept. 3, 1901.

FRIEND ERNEST:—I will try and tell you what you want to know about that queen. I got her of you in 1899 as a premium with GLEANINGS. I never saw a small colony of bees build up as that one did. In the spring of 1900 they came out in fine shape, wintered perfect. I raised them up in May and gave them 8 frames more so the queen would not want for room. I never saw such a colony of bees as they were in June, and they were actually storing honey when other bees in my yard were starving. No! they were not robbing. I never saw those two best colonies of mine trying to rob. THEY CERTAINLY WORK ON RED CLOVER. This is no guesswork, as I have seen them. As you know, the past two seasons have been very poor, and what honey my bees did get in 1900 candied soon after cold weather set in. I packed this colony in a chaff hive and left them out, thinking that such a strong colony would winter perfect. The snow came on the middle of November, and those poor bees never a fly until the last of March or the first of April. When warm weather at last came I thought they were dead, as they did not seem to be flying much, so I did not pay any attention to them until in June. I noticed they were working a little, so I opened up the hive and found them in the upper story. I took the lower story out and left them in the one body. The queen was laying nicely, and I thought they would make a good colony to winter. Along the last of July I noticed that they needed more room. I gave them super, 24 boxes, and in a few days they had it full. They have made 72 boxes of as nice honey as you ever saw, and are drawing out some starters now, Sept. 2.

Very truly yours, GEO. B. HOWE.

Prices of Red Clover Queens.

Gleanings in Bee-Culture 1 year and Untested Queen	$2.00
" " " Tested Queen	4.00
" " " Select Tested Queen	6.00

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Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., OCTOBER 17, 1901.

FORTY-FIRST YEAR
No. 42.

WEEKLY

HONEY DISPLAY AT THE CINCINNATI FALL FESTIVAL—(See page 662.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

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GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

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The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

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OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

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The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., OCTOBER 17, 1901. No. 42.

Editorial.

No Foul Brood—A Correction.—On page 627, we called attention to a reported case of removing foul-broody hives, combs, etc., from Michigan to Clyde, Ill., near Chicago. The owner of the alleged diseased material, mistrusting that he was the one referred to, called at our office for an explanation of the matter. We told him that our authority for the statement made were the foul-brood inspector of Michigan, and another man in that State.

He stoutly denied that any foul-broody material had been shipped by him, and said that the goods were still in the railroad car at Clyde, the car being unopened on account of some question about the freight charges.

In order that there might be no further cause for disagreement, we suggested submitting the matter to Mr. N. E. France, the famous inspector of apiaries for Wisconsin. He was immediately sent for. He came at once, and the owner of the car of bee-material, with Mr. France and the writer, spent several hours in examining very carefully all that the car contained, *and found no evidence of foul brood whatever.*

It seems that there were some foul-broody combs, etc., in the apiary from which the carload was taken, but those were not shipped. Hence, the unfortunate error.

We make the above explanation for two reasons: First, because we do not wish to accuse any man unjustly in public print: and, secondly, to show how easy it is to be mistaken.

As we did not give the name of the bee-keeper in question in our first reference to the matter, of course we omit it now. The carload of hives, frames, etc., was shipped from Rapid City, Mich., instead of Evart, as was stated on page 627.

We are more than pleased to have the matter end as it has, as doubtless will be all the bee-keepers in and about Chicago; for there is already enough foul brood in this vicinity without importing it from another State.

But, all the same, there should be a law in every State prohibiting the removal of any apiary, or part thereof, without first securing a State certificate granting permission, and also assuring that there is no disease.

Old vs. Young Queens for Breeders.—Editor Hutchinson calls for the experience of his readers as to the comparative value of old and young queens as breeders, in view of the fact that H. Edwards, of England, says that all queens making a record have been reared from the eggs of a comparatively old queen. One would naturally expect that the time of life at which the offspring of any mother would have the greatest vigor would be at the time when that mother herself is in the greatest vigor. A queen can do little toward making a record for herself, usually, during the same season in which she is born, for few queens are born before the swarming-time, and the season will be well over before the entire force of the colony consists of her offspring. Her record will not be made before the end of the second season, and after distinguishing herself in her second season she is used as a breeder in the third season.

So it comes about that those who select the best to breed from will use comparatively old queens, and this may go far to account for the fact that Mr. Edwards' best queens came from comparatively old mothers. But if he had reared queens from one of his breeders while she was yet in her first year, and as yet had established no reputation, might they not have been just as good as those she produced a year or two later?

Prevention of Early Swarms, says the Bee-Keepers' Review, is secured by some Ontario bee-keepers by using bottom-boards of wire-cloth, the abundant ventilation at least retarding swarming. Some might like this better than raising the hive on blocks.

Position for Bee-Escapes. — Almost universally they are put in the center of the escape-board. It was suggested in the Bee-Keepers' Review that one corner of the board is the better place, because when bees become excited about getting out of the super they run around the edges. Yet E. W. Brown, of northern Illinois, reports that in cool nights a cluster of bees would remain in the center all night if the escape was in a corner. Perhaps the best way would be to have an escape in the center and one in the corner.

Plurality of Eggs in a Cell is nothing very unusual when a prolific queen is in a limited brood-nest, but the cells containing more than one egg each are worker-cells. It seems, however, that exceptional cases occur in which a normal laying queen will lay the second egg in a queen-cell, according to the following from Gleanings in Bee-Culture:

> A rule that I supposed without exception was that, if you found more than one egg in a queen-cell, you might be sure of laying workers. The other day I found two eggs in a queen-cell and a good laying queen present. "Bees do nothing, invariably."

Thickness of Top-Bars.—S. T. Pettit champions in Gleanings in Bee-Culture top-bars less than ⅞ thick. He quotes a correspondent who says:

> "For a number of years I have been using a top-bar ¼ inch thick and 1⅛ wide, and *not a burr-comb* on a single frame in eight years' use."

This agrees with Mr. Pettit's theory that the width of the top-bar and not the thickness is the essential thing to prevent burr-combs; although Mr. Pettit himself finds it necessary to use a thickness equal to ⅝ to prevent sagging. Dr. Miller says he still wants thick top-bars even if they make no difference about burr-combs, because the thick top-bars make so great a difference between brood-combs and sections that the bees will not carry up black wax to darken the sections. Mr. Pettit thinks this point can be gained better by using queen-excluders. Editor Root thinks that ⅝ top-bars gave more burr-combs in their apiary than ⅞.

Prevention of Winter-Breeding. — An article from Wm. McEvoy, in the Bee-Keepers' Review, gives his way of preventing the bees from beginning to rear brood in January when wintered outdoors. He thinks that by preventing the bees from starting brood-rearing in January—a thing that often occurs with bees wintered outdoors—"we not only *save stores*, but the *lives of many of our best colonies*, which often dwindle down and out in spring from the large amount of brood-rearing that they do at a time when they ought to be at rest." His plan of prevention is to crowd each colony upon five combs about the first of October, each one of the five combs being sealed right down to the bottom. If any combs are unsealed, he feeds till the bees will take no more. This leaves no room for brood-rearing.

Cane vs. Beet Sugar.—Some discussion has taken place with regard to the propriety of using refined beet sugar for feeding bees, and some bee-keepers have felt uncomfortable because they had no means of determining whether granulated sugar was made from cane or beets. Bee-journals across the water have insisted that sugar made from beets was not safe food for bees. The following letter in Gleanings in Bee-Culture seems to teach that beet sugar is all right:

> Mr. Huber Root called my attention to an article published in Gleanings Aug. 15, and asked me to read it and give my opinion of some of its statements. The writer, W. K. Morrison, seems to think that sugar made from cane is better than that made from beets. I do not know how he or any one can know when he gets granulated sugar whether it's made from cane or beet. Of course, if he

sees the name of a sugar-factory of Nebraska, Colorado, or Michigan, on the sack in which it comes, he knows that he has beet sugar, but otherwise there is no way of knowing, for, even though it be from the refineries of Havemeyer or Arbuckle, it may be from either source, for these refineries handle raw beet sugar from Germany, Belgium, Holland, France, Austria, and Russia, as well as raw cane sugar from Java and the Indies.

One of the statements of the writer is that cane sugar is sweeter than beet sugar, "just as Jersey milk is richer than Holstein milk, and for this reason alone it commands a higher price." In the first place, I will say that cane sugar does not command a higher price than beet sugar; for in determining the price of sugar there is no question of its source, but of its quality. In the next place, I will say that the sweetness of sugar, from whatever source, depends upon its polarization of purity of sugar. As the chemical formula of sugar from both sources is the same ($C_{12}H_{22}O_{11}$), and their physical characteristics are both the same, it results that neither one nor the other can be said to be sweeter. The simile can not hold for the reason that, while sugar is a fixed chemical compound of so many atoms of carbon, hydrogen, and oxygen, with certain physical characteristics resulting from the atoms of the molecule uniting in a certain way, milk, on the other hand, is a variable physical combination of many chemical compounds; and while the slightest variation in the component parts of the molecule of sugar would make it other than sugar, there can be a great variation in the composition of milk, and it would still be milk. It might contain more or less water, more or less casein, more or less fat, etc., and yet it is milk.

The writer of the article claims that Dr. Wiley says that beet sugar is cane sugar, and cane sugar is beet sugar. I do not think that Dr. Wiley could say that. He might say that they are identical, or that beet sugar is cane sugar, but not that cane sugar is beet sugar, for the reason that "cane sugar" is the common name of the article which is chemically known as "sucrose," just as "grape sugar" is the common name of the article chemically known as "glucose." The name "cane sugar" was given at a time when the only known source was cane; but since then it has been found in other grasses besides the cane, and in a number of roots, as the carrot, parsnip, turnip, and notably in the beet. The writer of the article further states that, by the "same process of reasoning, saccharin, which is 500 times sweeter than ordinary sugar, ought to be cane sugar also, but it is not." I should say it is not! Saccharin is not a sugar at all, having none of the characteristics of sugar except that in a dilute form it gives a sensation of sweetness to the tongue, while in concentrated form it would be very bitter, and it is in no sense a food, as is sugar. I do not know what he means by "the same process of reasoning," but certainly no process of reasoning could class saccharin as sugar.

MELVIN R. GILMORE.
Supt. of Exhibit of the American Beet Sugar Association at the Pan-American Exposition.
Buffalo, N. Y., Aug. 31.

It seems that after reading this letter one may feel easy about the matter, especially after the following assertion of Editor Root:

I will reiterate what I have repeatedly said in these columns, that beet sugar, such as we have used for the last 20 years for feeding our bees, has been eminently satisfactory.

The Best Hive-Cover.—There has been some pleading for a hive-cover that would not leak, warp, or twist. A strong cleat at the ends will prevent warping, but it will not prevent twisting. Two thin boards with an air-space between them, the grain of the one board running at right angles to the grain of the other, the whole covered with tin or water-proof paper, will probably solve the problem, the air-space at the same time making the cover warmer in winter and cooler in summer. The demand, however, for a cover of this kind is not as general as might be supposed. Gleanings in Bee-Culture says:

Some days ago Mr. Calvert sent some samples of covers, such as I described, to a number of prominent bee-men, as well as dealers, located in various parts of the country. A good many of the replies have now been received; and nearly all favor a single-board cover in place of the double board with air-space. Indeed, the Excelsior cover with sides and ridge-board is considered quite good enough. This is a surprise, as it seems to us that a double cover would be better on all accounts.

Westward Ho!—Editor Root predicts that within 10 or 20 years the larger amount of honey will be produced west of the Mississippi; intensive agriculture making bee-keeping less and less profitable in the East, while in the great West there is much land that can never be cultivated, but will produce good crops of honey. We'll see.

Getting Combs Built to Bottom-bars, says J. C. Detwiler, in Gleanings in Bee-Culture, is easy with wired or unwired frames, by using them in 8-frame hives in upper stories. That has been well known for a long time, but Editor Root might have taken space for a foot-note to say that in most cases it would be inconvenient, and in some cases impossible to use such frames in upper stories, leaving the advocates for foundation-splints perhaps the only ones who can get combs directly built to the bottom-bar without sagging in a lower story.

Wanted—A Foul-Brood Law and Inspector.—An Illinois subscriber, who finds good reason to suspect that some serious disease is getting a foothold in his apiary, says that disease akin to foul brood is by no means uncommon in his locality, and adds:

"We, as well as the rest of the State, badly need a *law* and an *inspector*, the same as Wisconsin or Michigan has."

Some bee-keepers will not agree with him. One will say:

"I've been keeping bees 25 years and have never seen a case of foul brood, pickled brood, black brood, or any other kind of brood but healthy brood. What's the use of being to the expense of an inspector so long as the disease is not known in the State only in exceptional localities?"

To this it may be answered that one reason for the need of an inspector is the fact that without an inspector the scourge may exist and flourish for a considerable time in any given locality without its existence being generally known. It may be a great deal cheaper—undoubtedly it is a great deal cheaper to have some one constantly on the lookout to prevent the spread of foul brood, than it is to stamp it out after it has obtained a firm foothold. It is better to be at the expense of insurance than to run the risk of being burned out. Decidedly, our correspondent is right. Illinois ought to have the law and the inspector.

The Chicago Convention, to be held at the Briggs House, corner of Randolph St. and Fifth Ave., on Thursday, Dec. 5, promises to be something of a revival of the old Northwestern. It is hoped that all who can do so will arrange to attend.

Weekly Budget.

DR. C. C. MILLER, and his sister-in-law, Miss Emma Wilson, were in Chicago on Thursday of last week, attending the American Sunday-School Missionary Conference, where Miss Wilson read a most thoughtful paper on "Quarterly Examinations in the Sunday-School." Both Dr. Miller and Miss Wilson are enthusiasts along Sunday-school lines, and are already leaders in certain important things in that direction. They find that Sunday-school work combines well with bee-keeping. At any rate, both are successfull in their devoted bands.

A MAGAZING FOR COLLEGE MEN.—"The Business Side of a Great University," by President Harper, of the University of Chicago, is the opening article in the College Man's Number (Oct. 12) of the Saturday Evening Post, of Philadelphia, Pa. "Theodore Roosevelt, Harvard '80" is the title of an entertaining paper on the President's college life, by his friend, Owen Wister. Other strong features of this number are short stories by Max Adeler, Jesse Lynch Williams, and Frank Norris, and a page of droll "Nature Studies," by Oliver Herford. This number will be of uuusual interest to all college men.

MR. N. E. FRANCE, of Grant Co., Wis., when here to make the inspection referred to on the previous page, of course called at our office. He reports about half a crop of honey in his apiaries this year. He also said that there would be less foul brood if all bee-keepers would read the bee-papers. Quite a testimonial to the value of such publications. Mr. France is doing excellent work in his position as inspector of apiaries, but labors under many difficulties. His pathway will have to be made easier, or he will decline to continue in the work. Wisconsin bee-keepers can never repay him for what he has done in their interest. Neither can they find another man who will be likely to do the work so well, and with so little friction all around.

"Reviewlets" from the Bee-Keepers' Review.

A BUNCH OF GRASS put on top of the fuel in a smoker cools the smoke, and prevents the discharge of any sparks.

KEEPING A RECORD of each colony, the breeding of the queen, her age, the amount of honey stored, any peculiarities of the colony, etc., has its greatest use in enabling one to select the best stock for breeding purposes. Some use a book; the only objection to a book is that the leaves are likely to become stuck together with propolis. By using abbreviations, a great deal of information can be crowded into a small space.

CAPPINGS, at the J. B. Hall apiary, are allowed to fall into a wire-cloth basket of such a size that it just fits nicely into the solar wax-extractor, and when the basket becomes full it is put into the extractor and another used to catch the cappings. There is no need of waiting for the cappings to drain thoroughly, as the honey is not lost when put into the solar. It is necessary, however, to shade the dish in which the honey and wax are caught, or the heat of the sun will discolor the honey.

Contributed Articles.

Quantity of Nectar in Blossoms—Water Used by Bees.

BY C. P. DADANT.

DO all the blossoms yield nectar that are visited by the bees for nectar? In other words, are the frequent visits of bees to blossoms out of which they secure no pollen an indisputable evidence that they are gathering nectar from these blossoms? This is a proposition just being debated between two progressive apiarists of France —L'Abbe Multier, president of the Association of Bee-Culture of Haute Marne, and G. Collot, the editor of the monthly "L'apiculture Pratique."

L'Abbe Multier holds that in his section of country, although the bees work faithfully upon the basswood bloom, they never or almost never harvest any nectar from this tree. He holds, that although the basswood blossoms attract the bees, they go there and remain, in a sort of drunken spree, for hours together, as the drunkard in a barroom, while the bees that go to other blooms go back and forth, from the hive to the field, and vice versa, over and over without stop.

If the above-named gentleman had not in many instances shown his observing mind, one might be tempted to think that he misrepresented matters, but that is out of the question. He is not the first who has noticed that the bees may spend much time on blossoms without apparent results, for Editor Bertrand, of the "Revue Internationale," had, years ago, seen the bees eagerly at work upon the blossoms of the Eryngium Giganteum, and had ascertained that they secured nothing worth mentioning. He had marked some of the workers while upon these blossoms with a slight flour-dust, so as to be able to follow them in their flight, and had actually seen the same bee on the same bunch of blossoms, working faithfully and busily, for five consecutive hours. It is very evident that the quantity of nectar secured, though sufficient to keep up the life of the bee, was so insignificant as to leave its honey-sac unfilled. I mentioned this fact in my letters from Switzerland last year, in the American Bee-Journal.

When the Echinops Spherocephalus was accidently discovered to be a valuable honey-plant (?), the gentleman who made the discovery noticed the numerous visits to the plant by the bees, and sat down to an experiment as did Mr. Bertrand, only, instead of marking a bee and watching it, he marked a blossom and watched it. It appeared, if I remember rightly, that the same blossom was visited some 1600 times by bees during the same day. This experiment, reported to the North American bee-keeper's congress, brought the Echinops before the public in the United States, and a general rush was made towards the production of this plant. But it was since ascertained that not only was this a noxious weed imported from France—a sort of dwarf thistle—but it was also found, that, although the bees were always upon it when in bloom, yet no apparent results were secured. At least this is the final verdict, as far as I have heard. Mr. Bertrand, through his experiments in Switzerland, had already come to this conclusion, and had discarded both the Echinops and the Eryngium as not worthy of cultivation.

In the case of the basswood, the accusation of uselessness is not to be considered, except in instances like the one I have mentioned, where the trees are not numerous, and the soil perhaps unfavorable. Many portions of America are plentifully supplied with basswoods, and show by their honey-crops that basswood honey is not a myth. Numerous towns, cities and counties in the United States are named after the basswood tree, and in many of these the crop of basswood is almost as regular as the crop of clover honey in others. And the odor of the basswood honey, as well as its taste, can not be mistaken for any other. It is stronger in flavor than the perfume of the blossom whence it is produced, and its smell is no longer a perfume, but a rank and almost disagreeable odor, which has caused its being classed as secondary in quality.

But the fact that the basswood bloom is evidently a useful honey-producer does not, after all, destroy the evidence, that in many cases the bees work upon blossoms which attract them by their pleasant smell and retain their attention by probably supplying them with enough nectar to please their palate, without giving them a sufficiently remunerative quantity to make these blossoms desirable or entitle them to a place among our domesticated plants.

But plants and trees which furnish a supply of honey in certain localities under certain conditions, prove useless in other places, and it is for the apiarist to ascertain the resources of his situation and act accordingly.

DO BEES USE WATER TO COOL THE HIVE?

I see the above question put by J. A. Gerelds, page 566. In this article Mr. G. explains that he has lost a number of colonies from the combs melting down, and that he was told that the want of water by the bees was the cause of this. Let me give him our experience on the subject.

In 1878, if I remember rightly, we had established an apiary of some 80 hives of bees at the farm of an old French gardener, about six miles from our home. The hives were in the yard near the house, and only a few of them sheltered from the rays of the sun by apple-trees. A small number of the hives had roofs, the others (new hives) were not sheltered in any way, for we had never before experienced any loss from heat, and had no idea of the possibilities.

During that summer the crop was tremendous, and we were distanced by the bees. We could not put up our honey-boxes fast enough to keep the bees with room, and the combs were exceedingly heavy. I remember going to that apiary at one time with six or eight extracting supers, and being unable to give more than three or four empty surplus combs to each filled hive, and these combs were all filled at my next visit, a few days later.

These bees needed no water supplied to them artificially. There was a large creek in close proximity, and they have always gotten along finely at that place on their own resources in that line.

One day during the hot weather, I received word by a messenger sent by my old friend, the gardener, that something was wrong in the apiary, as the bees were in an uproar. I was unable to go there for two days, in spite of his warning, and when I arrived on the third day I found five hives entirely empty, and some 15 others with from one to five combs broken down. The bees in the partly damaged hives were already rebuilding combs over the mass of piled-up broken combs, mixed brood, pollen and honey. But the five hives that had broken down entirely had nothing left but a pile of debris, dead bees and rotting brood. Remember that all these hives had supers on, some one, some two—supers of our large-size Quinby, containing when full some 60 or 65 pounds, and the body of the hives probably contained as much. All this was gone, and very certainly the most of it had run into the ground.

It was at this time that we began using straw mats over our hives, that is, over the oil-cloth, at the top of the hive and under the cap, summer and winter, and it was on the suggestion of our old friend, the gardener, who had been used to straw mats all his life when gardening in Paris. He knew how to make them, and made for us a large lot; he said that in Europe they used them to keep away the frost, to shelter their plants from the heat of the noon sun, to cover their glass hot-beds on cold nights, and for many other purposes connected with gardening.

We have used these mats ever since. They not only keep off the heat of the sun in summer, but they retain the heat in the winter. They are good non-conducting shelters, and absorb moisture. We make them of what is known here as "slough-grass," "marsh-grass," the botanical name of which I believe to be "Spartina," a tall, wiry grass well known to any one who lives along the Mississippi. This material is stronger and tougher than straw, and mats made of it would last for ever if we could only bind them with indestructible twine.

We had made also, some of these mats, of large size, two feet high, by six or seven feet in length, and had used them to wrap up our hives for winter. But they were so cumbrous that we had to pile them up in a shed, and the rats and mice destroyed the cord with which they were made. I believe it would pay to keep such mats in a safe place so as to use them for wintering.

But the straw mat is not the only thing that we have used to prevent a recurrence of the accident above mentioned. Whenever the hives suffer from the heat, we raise them from the bottom-board so as to give plenty of ventilation. This we think is as necessary as the use of a shelter from the sun. We also use roofs (portable roofs made

of rough boards) over all of our hives, and since we have used these precautions we have not had any accidents of this kind to suffer.

Hancock Co., Ill.

Exhibit of Bees and Honey at a Fall Festival.

BY JOHN R. SCHMIDT.

A NOVEL and interesting exhibit in the Pure Food department of the Cincinnati Fall Festival was the display made by Mr. C. H. W. Weber.

In a tastily decorated booth a complete line of bee-keepers' supplies, consisting of the latest hives, utensils, and everything of imaginable use in the pursuit of modern bee-keeping, together with a nice display of comb and extracted honey put up in a most inviting and catchy way, was shown.

The exhibition attracted such universal attention, and was so much admired by the thousands of visitors, that it might be well to go into details somewhat as to its make-up, thereby possibly enlightening some interested readers who may improve upon the same at the next fair or exhibition coming his way.

The display being in a corner of a building, the two white-washed walls were well hidden behind a mass of choice comb honey in cases, tiered up over five feet high. Between each tier of cases, bottled honey was arranged, showing the different sizes, and also the special registered labels, a distinct marking for that kind of honey only. If proven otherwise, a $100 offer is yours, puts some significance into the meaning of these labels. The honey-cases and bottles were surmounted by numerous one-pound cartons colored a light lavender on two sides, and lettered in gold, signifying the contents a gilt-edged product.

Potted plants (natural palms) furnished by a florist, and well placed about the display, added much to the appearance and helped to enliven the exhibit; not to say a word about the bees, which made a "hot time" caused by the ever mischievous boy, this time with a sharp lead-pencil, which pried apart the wire meshes at the entrance and allowed bees to escape before being discovered. Luckily, only one souvenir was carried away.

The three well-known hives, viz: 8 and 10-frame dovetailed, Danzenbaker, and the Langstroth portico, all complete and painted a spotless white, making them look as neat as a pin, were placed near the rear wall, where they showed up to good advantage. The Cowan extractor, comb foundation, supers, smokers, and many small articles too numerous to mention, made up what may be called the foundation of the exhibit. Last, but not least, each telephone subscriber was furnished with an extra instrument in his exhibit free of charge, thus establishing perfect outside communication with almost every booth in the building, through a miniature exchange, which was on exhibition and illustrated the working of this wonderful instrument. This highly appreciated convenience came in especially handy when the bees escaped, for it was telephoned instantly to the office, and help was soon on the scene.

The most conspicuous place of the exhibit—the front—was occupied by two small tables, one of which contained a model 8-frame dovetailed hive having four glass sides. This hive was perfection in the full sense of the word. It contained a full colony of plain 3-banded Italian bees upon 8 frames of comb, with brood, honey and everything just as you would find in any prosperous colony. The upper story consisted of a 4¼x4¼x1½ plain section super, with fences partly cut away on either side to show the sections of honey in the various stages of completion.

In order that the queen might be seen at all times, a one-frame nucleus was shown, making it easy to keep track of this important individual.

Another nucleus illustrated the rearing of a queen-bee from the tiny egg to the matured product ready to begin her supreme reign, or be sent through the mails in one of the well-known cages. This was also shown and fully explained.

It may not be unwise to say that these observatory hives were very attractive in appearance, which was largely due to the perfect workmanship. Instead of being painted they were nicely varnished. The top, lower-story and bottom-board were held securely together with nickel-plated fastenings, giving the whole a handsome appearance. Double-weight glass on the sides and ends of the full colony, and on the sides of the nuclei, made things as plain as day, and revealed the mysteries of the bee-hive to hundreds with their strange, and, many times, ridiculous questions.

Now, thoroughly aroused as to how bees "make" honey, the interested observer passed on to the other table, where a neat and polite young lady attendant was in charge of two large glass vessels of honey, distinct in quality and flavor, viz: the famous Colorado alfalfa, and white clover honey. Each who wished to sample was provided with a small, flat piece of white basswood, which served as a spoon. After once used, the piece was done for, and dropped into a receiver. This method not only avoided a lot of mussy work, but was extremely sanitary, and many sampled the honey who otherwise would not have done so. Quite a number of orders were booked for delivery, not saying anything of the one-pound sections and the bottles sold every day at the exhibit. On an average about three gallons of extracted honey was consumed every day from the sample table. Each little stick held, at most, half a teaspoonful of honey (many times less), so it is easy to imagine how many dips were necessary to take away three gallons of honey.

After the first day it was found absolutely necessary to restrict some of the children "unaccompanied by parents" who were especially fond of honey, for they actually could not decide on which should be the last dip.

An unusual and unexpected coincidence developed in the form of a biscuit-baking booth next door, which advertised a well-known flour, and gave away hot biscuits and coffee. The hot biscuits and the honey soon developed a mutual attraction, to the tune of several hurry calls over the telephone for "More sample honey to the exhibits! Quick!" A fortunate misfortune which may be answered by yes and no.

The exhibit was a success in every way, and the howling success of Cincinnati's great annual show was largely due to the exhibitors taking such an interest in their exhibits, as this one did in his. May it only serve its purpose well, and help bring "more business" to the bee-keeping industry, as well as in other pursuits.

Hamilton Co., Ohio.

How I Managed a Swarm of Bees.

BY DR. E. GALLUP.

ON April 19, I caught a medium swarm of bees. Now I propose to tell, for the instruction of the beginner, how I handled those bees.

I hived them on six empty frames. After seven days I began to move the outside frames, one at a time, into the center of the cluster, so the queen would occupy it with eggs, and have the bees build all worker-comb. It had a young queen and probably was a second swarm. Bees left to themselves, especially with an old queen, usually build more or less drone-comb at the outside of the cluster.

On May 24 I had 14 frames all filled with worker-comb, and the queen had occupied them as fast as built.

On May 13 I moved the queen and two frames of brood into an empty hive, moved the old or first hive about the width of it to one side; set the hive containing the queen near enough to the position of the first hive so as to throw

OBSERVATORY HIVES AT THE CINCINNATI FALL FESTIVAL.

the most of the working force into the new hive; placed an empty frame between the two full ones. and adjusted the division-board. I sent for an Italian queen for the old hive.

Now, I have two boys, one 12 and the other 14; both are anxious to learn about the bees, so I have opened both hives three and four times a week, and sometimes twice a day, to take out the combs and show the bees at work, the queen depositing eggs, how the workers unload their pollen, etc.

The bees are hybrids. One scarcely finds a swarm that is not more or less crossed with Italians.

In examining those bees we have not used a bee-veil or one particle of smoke at any time. Now, if I should, as most bee-keepers recommend, puff smoke into the entrance, we should disturb them and stop their labors entirely for the time, but as we handle them, they keep right on at work, and they are not disturbed a particle. If every time we looked at them, we annoyed them with smoke, we should soon have them so cross that it would be dangerous for the children to go about them.

When I had 125 colonies about the house, I never had my own or the neighbors' children stung by them at all. We never open a hive too early in the morning, nor too late in the evening, when the weather is too cool.

I commenced this article some time in May, and it is now Aug 3. It was mislaid and forgotten.

Always have your smoker ready in case of any mishap. But I could never see the necessity of the first thing puffing smoke in at the entrance, whether it is required or not. It looks to me like carrying your whip, and every time you approach your horse or cow, give them a good, smart cut with it for fear they will kick or hook. When I use smoke I use but a little at the top of the hive. Let the bees keep on at work, out and in at the entrance. By so doing we can keep them gentle.

I admit that there is occasionally a colony that one can hardly keep down, no matter how much smoke is used, but I will not keep a queen that produces such bees. It does not pay.

I now have 10 laying queens and a good, strong nucleus. All the combs have been built worker-comb except one that was built while the bees were rearing a queen. I had one colony given to me, one that I paid 25 cents for, and one that I paid 50 cents for. I have transferred about 10 frames full of ready-made worker-comb, all the rest having been made without foundation. Bees are yet sending out natural swarms. One went into the corner of a large fruit-packing house on July 21, between the outside and chimney. Being too much trouble to get them, I let them alone.

Bees that were in good condition have done remarkably well. The honey season is nearly over now. The loss in the three dry years that have passed has been very heavy in the mountain apiaries where there was no irrigation. They will work in the valley until into September.

Orange Co., Calif., Aug. 3.

Preparing Bees for Winter—A Conversation.

BY G. M. DOOLITTLE.

HELLO! what are you doing with the bees this morning? I supposed all work with them was over for this year."

"In this you are mistaken, Mr. Smith; for, in my opinion to reap the best results in wintering bees, September is the month in which they should be prepared for winter. This gives them a chance to get their stores for winter placed just where they wish them, so that, by the latter part of October, they are ready to go into that quiescent state which is always conducive to the best results."

"Well, this is something new to me, as I always thought November would do very well as to time to fix the bees for winter. But what do you do now by way of preparation?"

"The early preparation consists in opening each hive and seeing that each colony has a good queen, plenty of bees, and, most of all, plenty of stores."

"How much do you calculate for stores?"

"I allow 25 to 30 pounds for each colony, which should be in the hive from September 10 to 25."

"But suppose some colonies do not have that much."

"If there is not so much as this, feeding must be resorted to; and if we have to feed, it should be done in September, surely, in order that the bees may cap it over before cool or cold weather; for unsealed stores often sour and get thin during winter, thus causing disease. Multitudes of bees are lost yearly, where feeding is put off till October and November, by being obliged to eat poor, thin stores, this causing bee-diarrhea on account of the bees not being able to hold their feces, because they can not evaporate all the water out of their food, it being so thin."

"But suppose the bees are still getting honey from the fields."

"In places where fall flowers abound, so that the bees are storing at this time of the year, of course they should need no feeding if the apiarist manages rightly."

"Do you think if *one* needed feeding *all* would?"

"This is to be ascertained by looking them over, as you see me doing. If I find some colonies are heavy with stores while others are light, the light ones can be fed by taking from the heavy; and if there are some light in stores after so equalizing, then we feed what still remain without a sufficient supply."

"Having all fixed as to stores, etc., what next is to be done? I wish to learn."

"The next thing to do is to put on the quilt, where such is used, and over this the sawdust cushion, or whatever packing material is used, thus tucking them nice, snug and warm for the winter."

"Do you use common enameled cloths for quilts?"

"I do not during winter. Some so use, but the most of our practical bee-keepers prefer some porous substance, like woolen blankets, pieces of old carpet, or something of that kind. For colonies to be left on summer stands, I use chaff hives, which chaff is left on in the hives both winter and summer. Over the tops of the frames I prefer a quilt, as just spoken of, and on top of the quilt a cushion two or three inches thick, made of common factory cotton cloth, filled with corkdust, if possible; if not, then filled with dry basswood sawdust. Such cushions seem to keep the bees in better condition than anything else I am acquainted with. The corkdust allows the moisture to pass up through it and out at the top of the hive, while the basswood sawdust will absorb nearly its bulk in water, so that either keeps all dry, warm, and nice."

"Do you do anything else by way of preparation?"

"When winter sets in, a board about 8 or 10 inches wide should be set up slanting from the alighting-board to the hive, in front of the entrance, so as to keep out snow and cold winds, as well as to shade the front of the hive, where the hives face south, as they should during winter, so the bright rays of the sun shall not entice the bees out when it is too cold for them to fly."

"Do you winter all your bees outdoors?"

"No. I prefer to winter a part of the bees in the cellar, for I like the idea of 'mixed wintering,' as by this plan no extreme loss is likely to occur; for a winter which is severe on the bees out of doors is generally good for cellar-wintering."

"At what time do you set the bees in the cellar?"

"Somewhere about the middle of November. At any time between the 10th of Nouember and the 1st of December, when the hives are dry, and free from frost, I set them in. If they have a flight along about this time I set them in the next day, if it does not rain so the hives are wet; and I find that this can be done, even if the weather is quite warm, much better than it can on a cold morning when the hives come up from their stands with a jar from having been frozen down."

"Do you give each hive a seperate stand when in the cellar, or set them on a plank which will hold several hives?"

"Neither. A cellar stand is made by nailing four pieces of six-inch boards together so they shall be of the right size for a hive to rest on. This raises the first hive six inches off the cellar bottom, and away from the damp air which is generally found right at the cellar bottom. The first hive is set on this stand, when hives are piled on top of the first till the floor is reached, so that each stand holds from three to five hives, according to the depth of the cellar. In this way the cellar is filled (if I have colonies enough), except a passageway through the center to the back end, through which I pass every two or three weeks to see if all is right so far as temperature, mice, etc., are concerned. Otherwise they are left undisturbed during the winter."

"At what temperature should the cellar be kept?"

"Here practical bee-keepers differ; but I have had the best success with a temperatnre of from 43 to 45 degrees, or as near that as can be had. With a cellar in a bank, separate from any building, the keeping of the temperature at this point is quite easy; but with a cellar under a room or building it is not so easily done, for the changes from the outside have more effect on the interior of the cellar than

they do where the cellar is wholly under ground in a bank or side hill. There are other things which might be said on this wintering subject; but with your consent we will leave them till December, when I am not so busy, when, if you will come over, we will talk them over more at length." —Gleanings in Bee-Culture. Onondaga Co., N. Y.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Burr-Comb With Honey Between Super and Brood-Frames.

I am a beginner in bee-keeping, having 16 strong colonies in hives having 8 Hoffman frames with ⅞-inch top-bars, with Ideal supers for section honey, and I am bothered very much with burr-comb full of honey being built by the bees between frames and supers; built so solid that it was impossible to take off supers without lifting the frames, although the bees had plenty of room in the supers for storing honey. What will prevent bees from building burr-comb and storing honey between frames and supers?

SUBSCRIBER.

ANSWER—Is the space between each two top-bars and the space over top-bars ¼ inch or a shade less? If so, there should not be very much trouble with burr-combs. I hardly know what can be the trouble. Perhaps there was an accumulation of burr-combs over the top-bars from former years. If there are burr-combs over top-bars when you put on supers, you may be sure the case will not be getting better, but worse all the while. In any case, the burr-combs are there now, and if let alone will be there in worse condition next year. Before putting on supers next year, scrape the tops of the top-bars clean with a sharp garden-hoe. Put your foot on the top of the hive at one end, and hoe toward you. Let an assistant play the smoker to keep the bees down out of the way.

Foul-Broody Frames—Moving Bees a Long Distance.

1. Can frames from foul-broody colonies, after the wax and honey have been melted out in a solar extractor (the heat of which is so intense as to cook eggs *hard*), be safely used in the apiary again?

2. What is the best and safest way to prepare bees (in 8-frame hives) for moving by rail a distance of 500 miles, in April? UTAH.

ANSWERS.—1. I *think* it would be safe to use such frames again, although very unsafe to use the honey again, and consequently unsafe to use the frames if any honey were left on the frames. That excellent authority on foul brood, Wm. McEvoy, tried to make it very clear to us at Buffalo that it was safe to use, without disinfecting, hives that had contained foul brood. Other authorities have insisted that it was unwise to use such hives, but the fact that under Mr. McEvoy's instructions at least 5,000 such hives have been used with no evil results, makes it seem practically safe to use them. So I conclude that frames with no honey on them might be used without harm. While I think it might be safe to use such frames, I do not think it advisable. Mr. McEvoy advises using the hives and burning the frames, of course saving the wax.

2. The two items in the preparation are to provide abundant ventilation, and to provide against moving of the frames. One way is to provide ventilation by means of wire-cloth to cover the entire top of the hive, having a frame two inches deep on which the wire-cloth is fastened. If fixed-distance frames are used, all that is necessary to fasten the frames in place is to put wedges between the dummy and the frames or side of hive. If loose-hanging frames are used, you may wedge, between the frames, sticks long enough to reach to the bottom of the hive and project above the top-bar. Or, you may fasten the frames in place by driving small nails into each end of each top-bar, not driving the nails entirely in, but leaving them out enough so they may easily be drawn after the journey is over.

It will be well to study up what is said in your text-book on the subject.

Drones—Honey-Boards—Sweet Clover, Etc.

I have an apiary of 60 colonies that I am running for pleasure and a desire to study the nature, habits, etc., of the honey-bee. I have nearly all the standard books on apiculture, but can't solve many little things that develop, and therefore I have to apply to our best authority, and wish to ask:

1. Why is it that several of my colonies lately have turned out a full force of drones, after killing them off in July, as is their customary habit here and elsewhere?

2. I don't think I have seen a drone since some time in the latter part of July (it is now Sept. 23), and a few days ago I was strolling through my apiary, and all at once the peculiar note of a drone on the wing attracted my attention, and, on examining, I found the place alive with them, but they seemed to be confined most to certain box-hives, but are again being driven off by the bees. How do you account for this?

3. Some of my colonies are storing honey in their supers, while the majority of them haven't stored any after the principal flow closed, which is generally about the last of June here. I have tried baiting them, still they seem to be busily engaged, and carrying in pollen.

4. How would a piece of a crocus-sack do for a covering for supers to act as a honey-board? Is there any objection to it?

5. How do you prevent the honey-board being stuck to the top of the frames?

6. Suppose you use a piece of crocus-sack for a covering in place of a honey-board, would it be a good way to give the bees air to raise up the top by placing two cross-sticks under the top, raising it an inch or so? Would that interfere with comb-building?

7. Will yellow and white sweet clover yield nectar in this climate? If so, how long after sowing? When is the best time to sow it? MISSISSIPPI.

ANSWERS.—1. I don't know. I may give a guess at it. It is possible that in your locality, as in many others, you suffered from the terrible July drouth, causing the bees to kill off their drones. Then when rains came and started up a moderate honey-flow, eggs were again laid in drone-cells. It must be remembered that each year about one queen out of three is superseded, and this superseding is usually done somewhat late in the season, so if a colony with a superseding turn of mind had been left by the July drouth without any drones, there would be nothing left for them to do but to rear some.

2. A difference in conditions accounts for the difference in behavior of different colonies. A colony with a young queen might be likely to rear no drones after July, while a colony with an old queen that it was trying to supersede would be sure to rear them. At the time you saw them the bees were probably killing off the drones for good, and at such times the drones being driven out of the hives make an unusual show of numbers.

3. I suppose you'd like to know why such difference. Well, there may be a difference in the industry of colonies. That of itself is answer enough. The condition of the brood-nest may also make a difference. One colony had an old queen which did not lay well, and instead of keeping its combs filled with brood in June filled them chiefly with honey. Then it superseded its queen, rearing a young and vigorous one which not only filled all the vacant cells with eggs, giving no chance for storing below, but obliged the bees to carry up some of the honey previously stored in the brood-chamber. Another colony had a queen that laid profusely during the first part of the season, allowing very little honey to be stored in the brood-nest. As the season advanced the queen let up in laying, and the vacant cells left by the hatching bees were largely filled with honey, leaving no honey to be stored above.

4. I don't know what a crocus-sack is, but it is likely some kind of cloth, so coarse that bees could pass through the meshes. Very likely the bees would spend a good deal of time trying to tear it down, and use a good deal of propolis upon it. A few years ago I discarded honey-boards altogether, having nothing whatever between the top-bars and the super above. You will probably be pleased if you

make such a change; but you must allow only ¼ inch or a shade less between the top-bars and the sections or frames in the super. It will also be a help to have only ¼ inch space between each two top-bars, which space you can secure by nailing strips on each side of your top-bars if they are too narrow, and most bee-keepers also think it desirable that the top-bars be from ⅝ to ⅞ inch thick or deep.

5. By having the space between top-bars and supers a scant quarter of an inch. You can also prevent it by doing away with honey-boards altogether.

6. Letting air directly into the super has the effect to make slower work in building comb wherever the air enters. So it is objectionable for comb honey, but is a good thing for extracted honey.

7. They are of such universal adaptation that almost certainly they will succeed with you. You may sow in fall or spring. They will grow the first year without blossoming; the second year they will begin blooming before white clover is over, and not stop entirely till hard freezing weather; and the following winter they will die root and branch.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

THE HIRED MAN IN THE APIARY.

Homer Hyde, when he wrote that excellent article on the hired man in the apiary didn't think that he was encouraging some of us to push right square against Almighty God. Why, Homer, the man you describe is a man that will not be allowed to be a mere hired man for any great length of time—that is, as a general rule he will not. A power above, that oft condescends to steer our little barks, will not allow it. If you have such a one, consider that you have a treasure lent you for a very little while—and don't kick (as Jeshurun in the Bible kicked) when the little while comes to an end. But while, as a general rule, we have to get along with hired men who have serious flaws, it is nevertheless true that the right kind of a demand will in time have a tendency to bring the right kind of a supply. At least the supply can be discouraged and kept off by idiotic conduct on the part of employers. See the farmers and their men. The supply is scant of men that will take a load to town and come home without danger of getting drunk and letting the horses run away. I have felt just amazed to see how easily farmers accept the danger, and how little extra they will offer, either of cash or other inducements, for strictly sober men. The employments that *will have* sober men and no others get them somehow. Page 564.

HONEY AND HONEY CONSUMERS.

And so black mangrove honey from Florida, notwithstanding its high quality and flavor, stirred up suspicion when peddled in a distant State where no one ever tasted just such a taste. Apparently Mr. Wallenmeyer has struck an important general principle. The ordinary customer wants one of the honeys he has tasted before—and fears a swindle else.

But it isn't a general principle everywhere that consumers object to buying as much as three pounds at one time. Living within delivery distance of a city grocery does seem to stimulate the disposition to buy by driblets, but the main cause lies elsewhere. Most consumers consider buying honey at all as *a piece of extravagance*. They dash in desperately to the depth of half a pound; but would consider it wicked to go much deeper. The remedies are obvious, if we are willing to use them. In retailing extracted honey I use a five pound package, and am seldom asked for less. If I remember rightly we have heard from brethren who sell mostly in a 20-pound or 25-pound package—to substantial farmers who live far from town, and who usually have money in their pockets.

"Useful when empty" is a very important phrase.

Shot in every new bottle to break out the shelly, thin glass. Sure!

Could wish that all the pictures had turned out clear like the first one, so that we might learn the *exact* manipulation.

Good wife that will non-colloquially get dinner with 500 pounds of honey encumbering the range!

No sin to adulterate with paraffine your own usings of wax, if it makes it better.

Sealing inside, directly on the hot honey, looks rather like a novelty. Pages 564—566.

PROPOLIZING SECTION-TOPS.

Dr. Miller's third answer to Indiana's questions will bear talking about. He is doubtless correct that bees often daub the top of sections the worse when an enameled cloth is laid on. Angles with a crevice in the bottom of the angle always have to have some propolizing, unless the bees are awfully busy at something more important. In doing this job they ram the material home forcibly, with the result that the section tops are soiled quite a distance from the edge. There is another side to the question, however. Well, it's pretty apt to come about in fine weather, when no honey is coming in, that our dont-want-to-be-idle little servants will bring propolis and surface all new wood—surface it in such a workmanlike way that it can not be scraped off as mere hurried chinking can. Something to cover section-tops which can not be lifted readily is the desideratum where sections are to stay on the hive any great length of time. Page 568.

THE "ONENESS" OF CLAREMONT.

Happy Claremont! One church, one literary club, one horticultural society! I don't know but such a town ought to pray never to grow any bigger. I'm sure they have a right to pray a *little*: "Lord, we thank thee that we are not in the sin of split-up-edness as other towns are." Page 569.

BRITISH COLUMBIA BEE-KEEPING.

And so in British Columbia one man says bees can not find supplies—has tried it—and another man gets 60 pounds of sections. Page 571.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

CORONADO.

There are three places that every visitor of Southern California should certainly see before he leaves this fairest part of our country. I hardly need to say that one of these is Redlands, with her incomparable "Smiley Heights," wealth of verdure, beautiful homes, and show of thrift everywhere. That one is Santa Barbara, with its lovely bay, its splendid climate, matchless combination of mountains and sea, and its incomparable suburb, beautiful Montecito. I have just spent Sunday at the third, beautiful Coronado. This is across the bay from San Diego. The climate here is wondrous even for California; never hot in summer, never cold in winter. San Diego and Coronado enjoy and rejoice in one perpetual summer.

Off San Diego are two long peninsulas. The outer, Point Loma, stretches southward, is some miles long, and high and precipitous. The inner, Coronado, stretches northward more miles, is often very narrow, and is low and level. All of Point Loma holds the ocean from the beautiful Harbor of San Diego. Only the south end of Coronado feels the pulse-beats of the great Pacific.

Coronado Hotel, and Coronado Tent City, mark the limit where the ocean sweeps this peninsula. So it is opposite the point of Loma. On one side the huge breakers thunder along the shore; on the other the long, quiet bay nestles, and is in striking contrast to the restless, resistless ocean just a few rods across the very narrow stretch of land. The great ocean steamers, or the more powerful war vessels that are wont to enter San Diego Harbor, must round the magnificent Point Loma, then pass northward in the narrow channel between the two peninsulas, then round the extreme northerly point of Coronado, when they may drop anchor in the ever peaceful waters of San Diego Harbor.

Coronado Hotel is one of the grandest in the world. Its prices are equally renowned, yet the moderate purse may still enjoy this wondrous bit of Nature's rarest tracery. The same company that controls the great and far-famed hotel, are likewise proprietors of Tent City, where neat-floored and carpeted tents can be rented very reasonably. A fine tent for three can be secured for $25 a month. In this are good beds, all the utensils for light housekeeping, gasoline stove, dishes, table, etc. Table and bed linen are also furnished. A good and very reasonable restaurant may be made to supplement

the home fare if one desires. A good literary and reading-room, with all the papers and magazines, is free to all. A very fine band discourses most beautiful music each evening. All kinds of bathing—surf, still water, or indoor warm water plunge bathing are at the command of all. All the attractions of the great hotel are shared with the occupants of Tent City. For one of my simple tastes, Tent City offers as inviting a menu as does the great hotel. I know of no place in California, or elsewhere, where as much can be had to gratify wholesome desire as at this beautiful retreat at delightful Coronado.

CULTURE.

At the pretty little hamlet of Chula Vista, on the mainland opposite the south end of Coronado peninsula, I had the pleasure of being entertained by Judge A. Haines for two days the past week. At the dinner table one evening, Judge Haines, who has a family of delightful and promising children, two of whom are making an enviable record in college, remarked upon the tremendous importance of the parents gaining and holding the fullest confidence and sympathy of the children. To do this we parents MUST be able to enter fully into the plans, thoughts and feelings of our children; must give heartiest sympathy to all that pleases and interests them. This, said the Judge, is the key to all right training in the home.

I was greatly interested in his further remark, that the best use of education was to make us able to extend these sympathies. Nothing, said the Judge, will help us so much to give and gain this fullest and best sympathy, as will rich culture. Thus education, broadest and best, will, as its best fruit, make possible such training as will result in grandest men and women. Such will most exalt our citizenship, and most bless the world. Judge and Mrs. Haines' own home and family are the best proofs that his philosophy is correct.

The Judge made one other remark: Anarchy, whose foul presence has struck such a cruel blow not only at us, but the world, feeds on sensation and superstition. Culture is the arch foe to both these blots of character. Culture, then, should rid us of the dastardly presence, that so seriously menaces our peace and safety.

EVERGREEN TREES.

The mother-love is one of the most holy and sacred of instincts. It impels the mother bird to fashion her nest where the younglings will be most secure against discovery and harm. Thus the pine and other evergreens are most sought for purposes of nest-building. Thus on every home grounds we may well plant a group of evergreens. I have only two lots for my home at Claremont, yet down by the barn I have a vigorous Monterey pine, Lawson cypress, Norway spruce, silver cedar, giant sequoia, and graceful arbor vitae. Already the birds have found my grove and appreciated it for nest-building. Thus this grove has three advantages: It gives real beauty, gives a touch of evergreen landscape, brings the cheering, beautiful presence of our feathered friends. Hurrah for the little grove of ever verdant conifers!

THE GARDEN.

Every bee-keeper, every rancher, should have a garden. What a superb place to give the children the needed wholesome employment! What a chance to give them responsibility and opportunity to earn money that shall be all their own! What a rich addition it gives to the family table as the best corn and peas are only known to him who raises them in his own well-cared-for garden. What a rich pleasure for the family as a whole, to plan, plant and glean in this little best corner of the home grounds. With what pride we note the growth of the luscious pie plant and vigorous asparagus. A friend—a very busy man of Escondido—a great bee-section, has just told me how he helps the purse by his garden. He has only three lots, all told, yet his monthly income is very helpful. One month it reached $29.80. His cabbages sold readily for two cents per pound, when lemons sold for only one cent.

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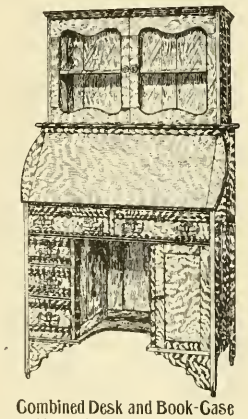

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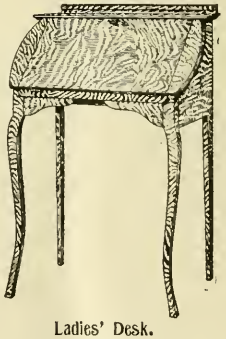

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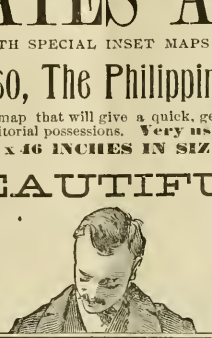

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The Drone's Folks.

"The drone," says a Straw in Gleanings in Bee-Culture, "is always a half orphan, for his father is always dead before he is born. He never has a full sister, for the father of his mother's female children is never his father. In fact, he never has any father except his grandfather, and he never lives to see any of his children."

In-Breeding.

The worst dangers of in-breeding are where two beings are mated that are of exactly the same blood, having the same father and mother. Fortunately, the bee-keeper need take no pains to avoid such close breeding; Nature takes care of that. A drone and a queen from the same mother are not full brother and sister, for the father of the queen is not father of the drone. The only way to mate two of exactly the same blood is to mate a drone to his mother, and the drone is born too late for that.—Gleanings in Bee-Culture.

Bees and Pear-Blight.

Regarding the bee and pear-blight question in central California, I am pleased to announce that many of the fruit-growers are coming to (or appear to be coming to) the conviction that the removal of the bees during the time the trees are in bloom will not materially abate the destructive effects of the pear-blight virus. It appears that the resolution passed by the bee-keepers in their convention, to move the bees out of the region of the pear-orchard during the time they were in bloom, required some ratifying action on the part of the fruit-men in filling out certain blanks. These blanks were laid before them some time ago, but nothing has been done. It is probably true that the pear-orchardists are not very sanguine as to the beneficial effects of the proposed removal, and many of them are fair men, and therefore disinclined to put the bee-keepers to this expense unnecessarily.

I talked with Prof. Waite (who, it will be remembered, originally declared the bees to be guilty), while in Buffalo, regarding this case. He was not sure the removal of the bees would bring about relief, owing to the presence of wild bees and numerous other insects that would, undoubtedly, spread the disease. He was sure, from extended experiments, that the bees were very necessary for the fertilization and proper maturing of the fruit, although he admitted that possibly conditions in California might be different. Prof. Waite is a careful, candid man, and a friend of the bees, and so much so that he deems it necessary to have a few colonies of them in his own pear-orchard, pear-blight or no pear-blight.

Taking everything into consideration, it appears now there will be no conflicting of interests between the bee-keepers and pear-men; and it is hoped that the matter will rectify itself when the pear-blight disease loses its hold or "runs out," as we sincerely hope it may.—Gleanings in Bee-Culture.

"Reviewlets" from the Bee-Keepers' Review.

Beeswax is the last thing that I should think of using for a lubricant, yet when I took my spectacles to a jeweler because one of the joints turned so hard that it was difficult to move it, he simply rubbed beeswax around the joint and held it over a lamp until it melted and penetrated the joint. Since then it has worked all right. He says that when the hinge to a watch-case works hard he treats it in a similar manner.

Extracting-Combs are better when they are thicker than the ordinary brood-combs. There is less capping for the bees to do, and less uncapping for the bee-keeper—besides, it is easier to uncap a thick than a thin comb. With thick combs there are fewer to handle. Most bee-keepers put one less comb in the super than in the brood-nest. With the Heddon hive Mr. J. B. Hall, of Ontario, uses only seven combs in a super, tacking thin strips of wood to the edges of the end-bars to make them of such a width that seven will take the place of eight ordinary frames. If the frames are needed for brood-rearing, it is an easy matter to remove the strips of wood.

Packing put around the bees in winter simply confines and retains the heat that radiates from the cluster. How it does this is well illustrated by the house that Mr. Jacob Alpaugh, bee-keeper-like, built for himself, in Ontario. The walls are of matched lumber, packed between with dry sawdust, and lathed and plastered on the inside. The house is only one story high; and the spaces between the joists overhead are packed with dry leaves. For all the world, it is a big chaff hive. Storm windows and doors are used in winter. A little home-made furnace in the cellar warms the whole house, with a fire kept only part of the day—none at night—and sometimes it is necessary to open a door to cool off the rooms.

Have Faith in your business, and stand by it. If you haven't faith in it, and will not stand by it through thick and thin, better get some business in which you have faith. Mr. Jacob Alpaugh, of Ontario, told me of an experience of his when the season was an entire failure, and colonies not fed died in September. Although already in debt, he went in still deeper by getting several hundred dollar's worth of sugar to carry his bees through the winter. There was a great loss of bees the next winter from lack of stores, but his bees came through in excellent condition. The next year proved to be one of the best. Prices were good, and there were only a few bees in the Province, and his bees not only put him out of debt, but left him with money in his pocket.

A Stout String, or even a piece of wire, attached to the end of a stick, is a most efficient device for starting a screw-cap on a honey-can, or loosening the cover of a fruit-jar. Wind the string around the cover three or four times, draw up the slack so that the string will not slip, and then use the stick as a lever for starting the cover. Simple, isn't it? But had you ever thought of it? I saw this device at the home of R. H. Smith, of Ontario.

Equalizing Colonies and contracting the brood-nests of old colonies just at the opening of the honey harvest is something that is not usually practiced, but A. E. Hoshal, of Ontario, says that with the Heddon hive he finds it an advantage. He looks over both cases of the brood-nest, filling one case with combs that contain the most brood, leaving this case upon the stand. The combs of honey are put away to be given the bees again after the harvest is over. The more populous colonies will contain more than one case of brood, while the weaker colonies will contain less than one case of brood; and, by the time that each colony is given one full case of brood, not much of any brood will be left. This method crowds the bees into the sections and curtails the production of bees at just about the right time.

Pedigreed Queens are something that may be found in the apiaries of Mr. Miller, of Ontario. For the last ten years he has kept a record of each colony, the breeding of the queen, the amount of surplus secured, etc. One colony, this year, made a spurt, and furnished ten supers of surplus. He hasn't looked up the breeding of the queen yet, but says he can trace it back ten years.

The Best Colonies devoted to comb honey production, and the others to extracted honey, will allow the bee-keeper to requeen his yard from his most desirable stock; as the bees worked for comb honey will swarm, and thus furnish the queen-cells for use in making increase. This was suggested by A. E. Hoshal, of Ontario.

Cushions are usually used on top of colonies that are wintered out-of-doors, but M. H. Hunt says that he prefers to lay a large piece

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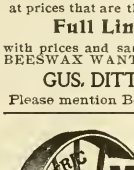

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THE NICKEL PLATE ROAD

will sell tickets each Tuesday, Thursday and Saturday during October to Buffalo Pan-American Exposition and return, at $6.00, good in coaches, return limit 5 days from date of sale. Tickets with longer limit at slightly increased rates. Three through trains daily. Chicago Passenger Station, Van Buren St. and Pacific Avenue. City ticket office, 111 Adams St., Chicago.

36—41A4t

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.

of cloth in the upper story, over the brood-nest, and pour the chaff into the cloth. He says that he can tuck the packing down more snugly at the corners than with the cushions. In the spring he can grasp the cloth by the corners, lift it out, and dump its contents into a box. The cloths can be packed away in a small space for the summer, and are easily protected from the ravages of mice.

A PORTICO, four or five inches deep, having a wire-cloth front, and large enough to cover the whole front of the hive, is the best thing possible with which to fasten in bees when moving them or shipping them. Nothing worries bees more, or sooner puts them into a ferment, than to find the entrance closed. While such a portico does not allow the bees to fly, it does not close the entrance, and allows the bees to cluster in it, off the combs. When hives are arranged in this way they can be stacked up without shutting off the ventilation. Jacob Alpaugh, of Ontario, has such porticoes as these for use in moving bees, and one of them can be fastened to the front of the hive in about five seconds by means of a hook made of wire. He had two colonies swarm once when being moved, and the porticoes were filled so full of excited bees that the latter disgorged the honey in their sacs and perished as a result.

DRAWN COMBS in sections can be very profitably secured near the close of the basswood by leaving on one super of partly finished sections, raising it up and putting beneath it a case of sections filled with foundation. By keeping close watch this case can be removed as soon as the combs are partly drawn, and before much honey has been stored in them, or the sections are scarcely soiled with propolis. If the flow continues longer, another case of sections can be put in the place of the one removed, and another set of drawn combs secured. Such supers of half-drawn combs are very valuable for use the next spring.

HIVES IN GROUPS of four is the arrangement in the apiary of J. B. Hall, of Ontario. The groups are named from the letters of the alphabet; thus there is group A, group B, and so on. The two north hives in group A face north, the two south ones face south. In group B the two west ones face west, the two east ones face east. In group C the hives face north and south the same as in group A. By this arrangement no two hives standing near each other have the same relative position, and there is little danger of a returning swarm getting into the wrong hive. When the bees are placed in the cellar in the fall, each hive is marked with a pencil on the front in such a way as to indicate its position; thus: "G—S W" means that it is the southwest hive in group G. In order that the position of group G may not be forgotten, a big letter G is printed on a piece of section-box, and tacked to a tree just north of the group. Other groups are marked in a similar manner.

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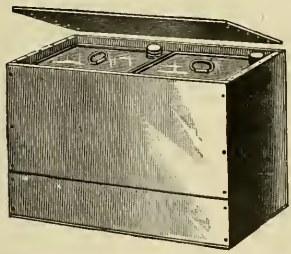
ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 8 cents per pound; four or more cans, 7½ cents per pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are boxed. This is all

ABSOLUTELY PURE HONEY

The finest of their kinds produced in this country.

Read Dr. Miller's Testimony on Alfalfa Honey:

I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of hooey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more marked flavor, according to my taste. C. C. MILLER.
McHenry Co., Ill.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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GENERAL ITEMS

The New vs. the Old.

I started in the spring with 47 colonies, 6 of them too weak to give any surplus; increased to 85, have doubled back to 79, and taken off 3800 pounds of honey, mostly extracted, and plenty of stores left for winter.

The above has been done where bees in five box-gums could not exist together for want of flowers. I give the improved hive and the Italian bee credit for the above.

L. W. McRae.

Washington Co., Ala., Oct. 2.

Honey Conditions in Nevada.

The Nevada State Journal (Washoe County's leading paper), says:

"Nevada's honey crop is almost a failure. Around here the bee-men are telling the same story."

Such is the fact, all things considered. I have averaged 40 pounds per colony, and for the season I think I have taken the prize in this locality. I know of some who have secured only 50 cases of comb honey from 200 colonies; others have secured none at all. Although honey is scarce, buyers are offering only from 9 to 10 cents for comb, and 4 to 5 cents for extracted. The A. I. Root Co. have a man in the field that is offering the best prices—10 cents for comb, and 5 cents for extracted. No sales have been made as yet, as we are after higher prices, if possible.

"Nevada Sage-Brush."

Washoe Co., Nev., Oct. 2.

Slow Honey-Dealers.

I shipped to B. Presley & Co., St. Paul, Minn., on July 31, 1901, 675 pounds of as nice white honey as was ever put into cases, and for two months I could not get a word from them—not even an acknowledgement of the receipt of the honey. Finally, after getting an attorney to write them, they sent me the sum of $68.50, or a trifle over 10 cents per pound. C. H. Harlan.

Kanabec Co., Minn., Oct. 5.

Good Season for Honey.

This has been a fairly prosperous year, notwithstanding the extended drouth. The weather during the summer was fair and free from storms and wind, thus giving an unusual number of working days. We had a heavy run early in the season from catnip; white clover, also red clover, being dwarfed by the drouth, was visited more frequently than common by the bees; and we also had a fairly good fall flow from heartsease, goldenrod, and many other flowers that secrete only during dry, hot weather.

My surplus at home is 407 pounds to the colony, spring count, from 75 colonies; one colony stored 629 pounds, one-fourth of it in sections. Another finished up 437 one-pound sections. I hived 50 swarms, which will amply pay all expenses. I sold 105 colonies for $525, and the latter part of May I had a chance to sell 500 colonies for $2500, but during the negotiations the heavy June flow came on, and I refused to sell. I produce section honey, extracted, and chunk honey, and sell all of it without regard to color for 15 cents per pound, mostly to local dealers in this and adjoining towns.

I am engaged in quite a number of other enterprises in connection with bees. Many neighboring farmers, who own their own farms, valued at $8000 to $14,000 each, inform me that their average annual profits do not exceed $800, while my average profits from sales of honey and bees from my home apiary have been for 16 years 300 percent on the investment.

I am one who believes bees pay, and pay better than almost any other kind of business. I am in the business because it is profitable financially, and not for health or pleasure. I think an industrious person who would ordinarily succeed in other affairs will do so in handling bees, but the man who has failed at farming or mercantile business I would not advise to go into the bee-business.

J. L. Gandy.

Richardson Co., Nebr., Oct. 3.

Standard Bred Queens.

Acme of Perfection.
Not a Hybrid Among Them.
IMPROVED STRAIN GOLDEN ITALIANS.
World-wide reputation. 75 cts. each; 6 for $4.00.
Long-Tongued 3-Banded Italians
bred from stock whose tongues measured 25-100 inch. These are the red clover hustlers of America.
75c each, or 6 for $4.00. Safe arrival guaranteed. FRED W. MUTH & CO.
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S.W. Cor. Front and Walnut Sts.
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IT WILL PAY YOU
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It tells how to increase the egg yield. The Dandy, the easiest turning of all bone cutters, is sold direct on 30 days' trial. Price, $5 up. Handsome Book Free.
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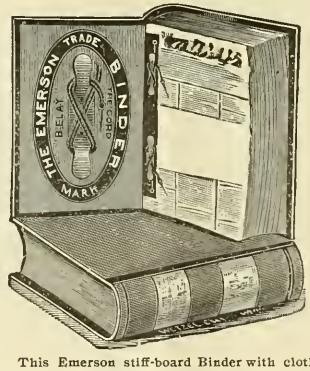
WOOL MARKETS AND SHEEP, CHICAGO, ILL.

The Emerson Binder



This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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37—41A4t

An "Infallible" Method of Introducing Queens.

Bees are subject to more modes of manipulation than any other domestic animal we have. There are all kinds and shapes of hives, all sizes of frames and sections, different makes of foundation, and different ways of introducing queens, all of which go to "rattle" the amateur, and place him in a state of flux. A will say, "My hive is the only one." B says, "My way of manipulating bees is the best way;" and now here I am saying that my way of introducing queens is infallible. Yes, infallible only in colonies where a laying queen has been taken out within a very few days, say not to exceed four, and there is lots of hatching brood, and this may be done just as soon as the old queen is removed. When you have found the old queen, and killed her or disposed of her in some other way to suit your convenience, take every bee out of the cage containing the new queen, and lift a frame from the hive and put into the cage from 15, to 20 *young bees* from one hour to one day old, being doubly sure there are no old bees put into the cage. Remove the cork or cardboard, and in from 24 to 48 hours the queen will be liberated and laying. I have had them out in six hours.

Queens are very nervous little things, and when the cage is filled up with the little innocent, fuzzy things, she is contented, and the colony at once will say, "Look at the new queen; why, the cage is full of our own bees;" and they do not molest her. "So we will hustle her out," and surely they will, and when she emerges from the cage her nervousness has all disappeared, and she takes up her duties and commences laying in a very short time. I even take my imported queens now and introduce them in this way. This may not be my own invention, yet I have never seen it mentioned, but perhaps it has been; but some amateur may profit by it, nevertheless. A. D. D. Wood.

Ingham Co., Mich.

Poor Season—Old Bee-Books, Etc.

I am a new scholar in bee-keeping. I bought two colonies last fall; one swarmed, and I captured it. The season was poor, and I will feed to carry them over winter. I did not get a taste of honey. Although my first attempt is a failure I will continue; that is the reason I sent my dollar for membership in the National Bee-Keepers' Association.

I have been deeply impressed by the high character, Christian spirit and brotherly love shown, each to the other, at the bee-keepers' conventions and rallies. I would have enjoyed meeting the brethren (and sisters, too) at Buffalo, and receiving advice and pointers (though I have received some pointed ones from the bees).

I love to read the American Bee Journal so much that I feel lost when I do not have it with me.

I have just read three old books on bee-keeping—one by Moses Rusden, July 18, 1679, dedicated to the "King's Most Excellent Majesty." This book is in four sections, has 143 pages, gives very clear the habits, and nature, and functions, of the "king-bee;" tells how to handle bees (*up-to-date, 1901!*), how to construct hives, treats on diseases of bees, etc., and closes his volume with, "If any man knows anything more than I impart, let him disclose it; otherwise, improve with me this art."

The next book is by Thomas Wildman, 1770, "A Treatise on the Management of Bees." His writings are very clear and enjoyable to peruse. He describes a movable-frame hive (*quite up-to-date!*). The engravings are remarkable and fine. He quotes many of the older writers. I wish you could read this book for its many interesting points.

The third book is by John Keys, of Bee Hall, near Pembroke, 1796. Title: "The Antient Bee-Master's Farewell." He tells about the selection, care, feeding, etc., of bees, describes the observatory hive, artificial swarming, honey-dew, how the queen-cage is made; diseases, thefts, wars, enemies of bees, extracting, etc. The engravings are excellent, showing the movable-frame hive to perfection.

I have the "A B C of Bee-Culture" and "Langstroth on the Honey-Bee." I believe we all are conceited about what we know about the busy little bees. After reading the modern works, and then the ancient, it sort of knocks the props out. We ought to give those old fellows some honor. I feel that we have borrowed it all, or almost all, from them. These books were loaned me by one of our most proficient and oldest bee-keepers, Mr. Charles H. Lake. He has quite a museum of old books, some of the very first experiments in hives in this country. With all the material and facts which Mr. Lake possesses, a most interesting history could be compiled.

CHAS. E. KEMP.

Baltimore Co., Md., Sept. 21.

CONVENTION NOTICES.

Chicago.—The executive committee of the Chicago Bee-Keepers' Association has ordered that the next meeting be held all day and evening, Dec. 5, 1901, at the Briggs House club-room. This is arranged on account of the low rates to be in force then for the International Live-Stock Exposition in Chicago at that time (Nov. 30 to Dec. 7), being one fare plus $2.00 for the round-trip. This notice goes by mail to nearly 300 bee-keepers near Chicago, and should result in the largest attendance we have ever had. Dr. C. C. Miller and Mr. C. P. Dadant have promised to be present. Let all come.

GEORGE W. YORK, Pres.
HERMAN F. MOORE, Sec.

Colorado—The Colorado annual meeting promises to be a genuine success. The program has been made out for a number of weeks, and is almost ready for publication. It has come to be a privilege and an honor to read a paper before our Association, and so very few decline who are invited to write or speak for instruction. One paper is already in the hands of the secretary. On two or three nights a big magic lantern will illustrate talks by famous students of bees and the bee-industry. And then we are going to have an exhibition of the choicest honey in the United States (made in Colorado, you know), and wax, with bees enough to show "how the thing is done."

If you want to know more, or have forgotten the dates (Nov. 18, 19, 20), write to the undersigned, box 432, Denver, Colo.

D. W. WORKING, Sec.

California! If you care to know of Its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

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The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

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And Several Other Clover Seeds.

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	5lb	10lb	25lb	50lb
Sweet Clover (white)	$ .60	$1.00	$2.25	$4.00
Sweet Clover (yellow)	.90	1.70	4.00	7.50
Alsike Clover	.90	1.70	3.75	7.00
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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Wanted To Buy Honey
What have you to offer and at what price?
34Atf ED WILKINSON, Wilton, Wis.
Please mention Bee Journal when writing.

Wanted Fancy White Comb Honey in no-drip cases; also Extracted Honey. State price, delivered. We pay spot cash. FRED W. MUTH & Co., Front & Walnut Sts., Cincinnati, Ohio. Reference—German National Bank, Cincinnati.
40A5t Please mention the Bee Journal.

Wanted Comb and Extracted Honey!
State price, kind and quantity.
R. A. BURNETT & CO., 199 S. Water St., CHICAGO
33Atf Please mention the Bee Journal.

Wanted—Honey.

Car Lots or otherwise; will pay highest market price, spot cash. Address, stating quantity, quality, and price desired at your station. Will send man to receive when lot is large enough to justify. THOS. C. STANLEY & SON,
31Atf FAIRFIELD, ILL.
Please mention Bee Journal when writing.

1901—Bee-Keepers' Supplies!

We can furnish you with The A. I. ROOT Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog.
M. H. HUNT & SON, Bell Branch, Wayne Co., Mich
Please mention Bee Journal when writing.

The "Successful" Branching Out—Perhaps one of the strongest arguments in favor of the use of the Incubator, is the immense success and growth of some of the more successful firms. People would not buy Incubators as they have been buying them by the thousand, if they were not as nearly perfect as it is possible to make them. One of the firms who are deservingly getting a large slice of this success is the Des Moines Incubator with their famous "Successful" Incubators and Brooders.

This business is growing so rapidly that they have found it necessary to open a branch office at 101 and 105 Erie St., Buffalo, N. Y., to enable them to take care of the large Eastern business that is coming to them. Buffalo is chosen because of its central location, facilities for shipping, and low freight rates, all of which will materially benefit purchasers of Successful machines.

This office is in charge of Mr. Wm. C. Denny, who needs very little introduction to most of our readers. A master mechanic in the hatching and raising of poultry, as well as secretary and treasurer and pioneer organizer of the Buff Rock Club. He is at the same time a broad, "fourteen carat" business man. You eastern fellows will be taken care of in a way that will warm the cockles of your hearts when you visit the Successful plant at Buffalo, and you are invited to make this your headquarters when in Buffalo. If you are not planning to be in Buffalo in the near future, write Mr. Denny a letter. He will gladly supply any information you may want on the artificial hatching and raising of poultry.

Finally, let us say that the Successful machines for 1901-1902, are up to the high standards always set by this house, and are backed up by an unqualified and unequivocal guarantee. Write and let them tell you their story, not forgetting to say that you saw their advertisement in the American Bee Journal.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Oct. 10.—There is a very good trade in No. 1 comb honey at 15c per pound; that which will not grade No. 1 or fancy sells at from 13@14c; some small lots of fancy have brought more than 15c; light amber selling at 12@13c; the dark honeys of various grades range at from 10@11c. Extracted sells fairly well at 5½@6½c for white, according to quality and flavor; white clover and basswood bringing 7c; light amber, 5½@5¾c; dark, 5@5¾c. Beeswax steady at 26c. R. A. BURNETT & CO.

CINCINNATI, Aug. 10.—The honey market is rather dull on account of the warm weather. Extracted sells only to manufacturers from 5@6c; better grades alfalfa water-white from 6@7c; white clover from 8@9c. Fancy white comb honey sells from 13½@15½c.

C. H. W. WEBER.

BOSTON, Oct. 12.—Fancy 1-pound honey in cartons, 16c; A No. 1 in glass or cartons, 15c; No. 1, 14½@15c; very little No. 2 being received. Light amber extracted, 7½c.

BLAKE, SCOTT & LEE.

ALBANY, N. Y., Sept. 19.—We quote: Fancy white comb, 16c; No. 1, 15c; mixed, 13@14c; No. 1 buckwheat or amber, 12@13c. Extracted, white, 7@7½c; light, 6½@7c; dark, 5½@6c. Beeswax, 28@29c.

H. R. WRIGHT.

OMAHA, Aug. 8.—New comb honey is arriving by express in small quantities from Iowa and Colorado, and selling at $3.50 per case in a retail way. California extracted honey is being offered carlots at 4½@4¾c per pound, f.o.b. California shipping-points, but we have not heard of any sales having been made thus far. The production of extracted honey seems to be quite large this year in Colorado, Utah and California.

PEYCKE BROS.

NEW YORK, Sept. 10.—Comb honey is now beginning to arrive in large quantities, and, as a rule, quality is fine. The demand is good, and we quote as follows: Fancy white, 14@15c; No. 1, 13c; No. 2, 12c; and amber, 11c. No buckwheat is on the market as yet, but are expecting same within a week or so. Extracted is selling slowly, with plenty of supply, at 5@6½c, according to quality, and Southern in barrels at from 55@65c per gallon. Beeswax dull at 27c.

HILDRETH & SEGELKEN.

DES MOINES, Aug. 7.—There is very little doing here in new crop of honey. Some small lots of near-by produced comb honey are on the market and selling in a retail way at $3.50 to $3.75 per case. We do not look for much trade in this line before Sept. 1. Our market does not consume a great deal of extracted honey.

PEYCKE BROS. & CHANEY.

DETROIT, Aug. 12.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.

M. H. HUNT & SON.

SAN FRANCISCO, Sept. 4.—White comb, 10@12 cents; amber, 7@9c; dark, 6@7½ cents. Extracted, white, 5½@—; light amber, 4½@—; amber, 4@—. Beeswax, 26@28c.

Arrivals and spot offerings are of rather moderate volume, but there is as much or more on market than can be conveniently or advantageously placed. To secure liberal wholesale custom, prices would have to be shaded in favor of buyers. In a small way for especially desirable lots slightly higher figures than are quoted are realized.

KANSAS CITY, Sept. 14.—Up to the present time only small lots of new comb honey have been on the market, and these met with ready sale on the basis of 15@16c per pound for fancy white. For next week heavier receipts are expected and quotations are issued at $3.10@3.25 per case for large lots, which would be equal to about 14@14½c; the demand being quite brisk, a firm market is anticipated. Inquiries for extracted are a little more numerous, but large buyers still seem to have their ideas too low. In a small way 5½@6c is quotable.

PEYCKE BROS.

Please mention Bee Journal when writing advertisers.

We have a Large Stock on hand and can ship promptly.

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Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

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Italian Queens Warranted

Untested, 75 cts.; Tested, $1.00; Select Tested, $1.50. Half dozen or larger lots as may be agreed on. Address,

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RIVER FOREST, Oak Park Post-Office,
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ROOT'S GOODS AT ROOT'S PRICES.

Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.

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Please mention Bee Journal when writing.

A New Bee-Keeper's Song—

"Buckwheat Cakes and Honey"

Words by EUGENE SECOR.
Music by GEORGE W. YORK.

This song was written specially for the Buffalo convention, and was sung there. It is written for organ or piano, as have been all the songs written for bee-keepers. Every home should have a copy of it, as well as a copy of

"THE HUM OF THE BEES in the APPLE-TREE BLOOM"

Written by
EUGENE SECOR and DR. C. C. MILLER.

PRICES—Either song will be mailed for 10 cents (stamps or silver), or both for only 15 cents. Or, for $1.00 *strictly in advance* payment of a year's subscription to the American Bee Journal, we will mail both of these songs free, *if asked for.*

GEORGE W. YORK & CO.
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Why does it sell so well?

Because it has always given better satisfaction than any other.
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Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

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Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

Langstroth on the Honey-Bee—Revised,
The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

Please mention Bee Journal when writing.

RED CLOVER QUEENS

BLACK ROCK, N. Y., Sept. 3, 1901.

FRIEND ERNEST:—I will try and tell you what you want to know about that queen. I got her of you in 1899 as a premium with GLEANINGS. I never saw a small colony of bees build up as that one did. In the spring of 1900 they came out in fine shape, wintered perfect. I raised them up in May and gave them 8 frames more so the queen would not want for room. I never saw such a colony of bees as they were in June, and they were actually storing honey when other bees in my yard were starving. No! they were not robbing. I never saw those two best colonies of mine trying to rob. THEY CERTAINLY WORK ON RED CLOVER. This is no guesswork, as I have seen them. As you know, the past two seasons have been very poor, and what honey my bees did get in 1900 candied soon after cold weather set in. I packed this colony in a chaff hive and left them out, thinking that such a strong colony would winter perfect. The snow came on the middle of November, and those poor bees never a fly until the last of March or the first of April. When warm weather at last came I thought they were dead, as they did not seem to be flying much, so I did not pay any attention to them until in June. I noticed they were working a little, so I opened up the hive and found them in the upper story. I took the lower story out and left them in the one body. The queen was laying nicely, and I thought they would make a good colony to winter. Along the last of July I noticed that they needed more room. I gave them super, 24 boxes, and in a few days they had it full. They have made 72 boxes of as nice honey as you ever saw, and are drawing out some starters now, Sept. 2.

Very truly yours, GEO. B. HOWE.

Prices of Red Clover Queens.

Gleanings in Bee-Culture 1 year and Untested Queen	$2.00
" " " Tested Queen	4.00
" " " Select Tested Queen	6.00

If you want something good you can not do better than to order one of these queens. All orders are filled promptly. No extra postage on these to foreign countries.

THE A. I. ROOT CO., Medina, Ohio.
(U. S. A.)

☞ **GEORGE W. YORK & CO.** 144 & 146 Erie Street, CHICAGO ILL.,
are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO
Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., OCTOBER 24, 1901.

FORTY-FIRST YEAR
No. 43

WEEKLY

MR. ANSELL'S HONEY-DESIGN SHOWN AT THE MINNESOTA STATE FAIR.—(See page 676.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

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GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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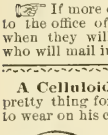
☞ If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Secor, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Langstroth on... The Honey-Bee

Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us **THREE NEW** subscribers to the Bee Journal for one year, with $3.00.

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—THE—

The Bee-Keeper's Guide;

Or, Manual of the Apiary,

—BY—

PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book published to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipped, or his library complete, without THE BEE-KEEPERS' GUIDE.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

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The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO. St., Chicago, Ill.

☞ Please allow about two weeks for your knife order to be filled.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., OCTOBER 24, 1901. No. 43.

Editorial.

"Too Previous" Unqueening.—Quite a number of beginners in bee-keeping make a big mistake when, after they have ordered queens from a dealer or breeder, they immediately kill the queens of the colonies where they wish to introduce the new queens when they arrive. This is a risky and unnecessary thing to do. Never destroy a reigning queen until the queen sent for is received. Very often queens can not be sent by return mail, even if so advertised. A breeder may be able to send by return mail almost invariably, but more than likely the bee-keeper who has been so hasty as to kill the old queen before the new one arrives is so unfortunate as to have the mailing of his queen unavoidably delayed several days or a week. Even a queen-breeder can not control all circumstances at all times. So the safest way is to wait until the new queen is on hand, then proceed to remove the old queen and introduce the new one according to directions.

Discrepancies of Apiarian Writers.—There is not entire unanimity among the writers of bee-literature. Views are held that seem diametrically opposed. Sometimes they are really just as much opposed as they seem to be. Sometimes wrong views are held. Sometimes a difference of locality or a difference in conditions may give rise to opposite views, both views being right. Sometimes, however, a fuller understanding may show that there is really no discrepancy where discrepancy appeared.

A case in point is that of getting unfinished sections cleaned out by the bees. The Miller plan is to have the sections in a pile with an entrance so small that only one or two bees can pass at a time. The B. Taylor plan is to spread out the sections so as to allow the freest approach. One plan seems to be the exact opposite of the other, yet a little explanation will show that both plans have the same basis for action.

In a time of scarcity expose a single section of honey, and in a little while it will be so thickly covered with bees that no part of the comb can be seen, and the comb will be chewed up into little bits. If by any means it can be so managed that the bees shall not beat all crowded upon the comb, the bees will deliberately empty the honey without marring the comb.

The Miller plan says: Admit so few bees at a time that they will not be crowded upon the comb. The Taylor plan says: Spread out so many sections that there will be no crowding. Each plan strives for the same thing—to prevent the bees crowding upon the comb. The Miller plan is safe in any case; the Taylor plan works more rapidly, but can be used only when 8 or 10 sections can be put out for each colony.

The Illinois Fair Premiums were awarded by C. P. Dadant this year. Secretary James A. Stone, of the State Bee-Keepers' Association, has sent us the list, which is as follows:

Display of comb honey—1st, J. A. Stone & Son, $20; 2d, Chas. Becker, $15; 3d, G. M. Rumler, $10.

Collection labeled cases containing 12 or more pounds of white honey from different flowers—1st, Chas. Becker, $8; J. A. Stone & Son, $5; G. M. Rumler, $3.

Collection labeled cases containing 12 or more pounds of amber or dark honey from different flowers—1st, Chas. Becker, $8; 2d, G. M. Rumler, $5.

Case white clover comb honey, 12 to 24 pounds—1st, Aaron Coppin, $4; 2d, Geo. A. Hunt, $3; 3d, J. A. Stone & Son, $2.

Case of sweet clover comb honey, 12 to 24 pounds—1st, Chas. Becker, $4; 2d, J. A. Stone & Son, $3; 3d, Aaron Coppin, $2.

Case of basswood comb honey, 12 to 24 pounds—1st, Chas. Becker, $4; 2d, J. A. Stone & Son, $3; 3d, G. M. Rumler, $2.

Display of extracted honey—1st, Chas. Becker, $20; 2d, J. A. Stone & Son, $15; 3d, G. M. Rumler, $10.

Honey extracting on the grounds—1st, C. Becker, $5; 2d, J. A. Stone & Son, $3.

Frame of comb honey for extracting—1st, G. M. Rumler, $5; 2d, Chas. Becker, $3; 3d, J. A. Stone & Son, $2.

Display of candied honey—1st, C. Becker, $20; 2d, J. A. Stone & Son, $15; 3d, G. M. Rumler, $10.

Display of beeswax—1st, J. A. Stone & Son, $15; 2d, Chas. Becker, $10; 3d, G. M. Rumler, $5.

One-frame observatory hive of dark Italian bees—1st, G. M. Rumler, $4; 2d, C. Becker, $3.

One-frame observatory hive of golden Italian bees—1st, Chas. Becker, $4; 2d, G. M. Rumler, $3.

One-frame observatory hive of Carniolan bees—1st, J. A. Stone & Son, $4; 2d, Chas. Becker, $3.

Honey-vinegar, one-half gallon, with recipe for making—1st, G. M. Rumler, $4; 2d, J. A. Stone & Son, $3; 3d, Chas. Becker, $2.

Display of designs in honey or beeswax—1st, J. A. Stone & Son, $12; 2d, Chas. Becker, $8; 3d, G. M. Rumler, $6.

The Colorado Convention.—The 22d annual session of the Colorado State Bee-Keepers' Association will be held in Representatives Hall, State Capitol, Denver, Nov. 18, 19 and 20. The following program has been prepared by the program committee. The secretary, D. W. Working, says it is probable that there will be a few minor changes in the program, but nearly all the papers have been definitely promised, and that a profitable and interesting meeting is assured.

In addition to the usual officers' reports, discussions of questions, etc., the following papers, addresses, etc., will be given:

Grading Honey—J. S. Bruce.
Summary of the Recent Discussions on Breeding—F. L. Thompson.
President's Address—R. C. Aikin.
Stereopticon Talk, Illustrating Bee-Keeping in the United States and Canada—E. R. Root.
The Interests of Isolated Bee-Keepers—Frank Drexel.
Advice to Beginners—H. C. Morehouse.
Methods of Wintering Bees—L. F. Jouno.
A Good Honey-House—T. Lytle.
Abnormal Swarming-Fever — Mrs. A. J. Barber.
Stereopticon Lecture—The Anatomy of the Honey-Bee—Prof. C. P. Gillette.
Long-Tongued Honey-Bees—Prof. Gillette.
When to Produce Extracted Honey—A. F. Foster.
Extension of State Association Benefits—D. W. Working.
The National Bee-Keepers' Association—R. C. Aikin.

An attractive feature will be the exhibit of bees and bee-products. The premium list (a copy of which we have not seen) should attract a large and representative showing of the work of our little storers of sweets.

It is earnestly hoped that there may be a large attendance. The Colorado Association is practically the only rival of the National, both in membership and value to the bee-keeping industry of the United States. Some day we trust there may be others to claim such a distinction.

How Long are Brood-Combs Good?—To this question a bee-keeper replies in Centralblatt, that at the most they should not be used more than three or four years, one reason therefor being that the queen shows her preference for new combs in which the bees are better developed. It would be very hard to convince the mass of bee-keepers that just as well developed bees do not proceed from combs 20 years old. And that queens prefer to lay in fresh combs is decidedly against the observations of many bee-keepers on this side.

Correct Use of Bee-Keeping Terms is a matter of some consequence. It has been a matter of no little difficulty to have the use of "hive" for "colony" eliminated from our bee-literature. "Swarm" for "colony" was also quite common. Now that the tendency toward correctness in terms has become somewhat general, there seems to be a letting-up under the plea that several names for the same thing gives a pleasing variety. This is

much to be regretted. Variety secured at the expense of perspicuity can hardly be pleasing.

A reputable journal has so many times used the word "stand" when "colony" was meant that it can hardly be otherwise understood than that such use is approved. The word "stand" having a specific use in bee-keeping as designating the thing upon which a hive stands, its use in another sense serves just as much for confusion as for variety. Is there any argument for the use of "stand" when "colony" is meant, that will not equally support the use of "hive" in the same way? A single word for each idea, and a single idea for each word, gives a clearness of understanding for which no amount of variety will compensate. Two words for the same idea and two ideas for the same word are common enough, let us not add to the confusion.

Weekly Budget.

MR. WALTER R. ANSELL, of Ramsey Co., Minn., sent us the photograph from which was taken our front-page engraving this week. He had this to say about it:

"I enclose a photograph of a honey-comb I caused my bees to produce for the Minnesota State Fair exhibit. It took first premium for novel design. My little boy was placed by its side in order to show its relative size. The weight is about 40 pounds. With the aid of a glass my descriptive card can be easily read on the photograph."

The card attached contains the following information:

"CIRCUMAPOLIS."

"These concentric cylinders of honey-comb all rest on the same base, the inner one being 9 inches deep. When made by the bees, they occupied an inverted position, the present base then forming the cover of the hive."

MR. W. W. LATHROP, of Fairfield Co., Conn., writing us recently had this to say about "The Home Circle" department in this journal:

EDITOR YORK:—Ever since Prof. Cook began his home circle papers I have intended to write and tell you how well I like them. If there was nothing else in the American Bee Journal I would still keep on taking it. They alone are worth a dollar a year to me. I hope some time they will be published in *book form*, for I should like to have such a book in my library.

I have had so much to say to my wife about Prof. Cook, and have read to her from his home papers at different times, until now, whenever I am cross and say or do something that I ought not to, she says, "Is that the way Prof. Cook would do?" or, "Come now, Prof. Cook, you have forgotten yourself." Of course, this stops further trouble. So you see, Mr. York, the home circle papers do good in one home, at least.

THE NOVEMBER DELINEATOR.—A seasonable atmosphere rises from the various useful and valuable features of the November Delineator. The styles shown are those for early winter; the dressmaking article tells about the making of coats; the fancy needlework article bears upon Thanksgiving and Christmas gifts; the crocheting articles are those of a winter character; the gardening article deals with the pruning and protection of rose-trees throughout winter. Every woman who wishes to get splendid value for her expenditure should buy the Delineator for itself. It in turn will help her to economize in household matters at every point. Published by the Butterick Publishing Co., New York. N. Y.

The Buffalo Convention.

Report of the Proceeding of the Thirty-Second Annual Convention of the National Bee-Keepers' Association, held at Buffalo, New York, Sept. 10, 11 and 12, 1901.

The 32d annual convention of the National Bee-Keepers' Association was called to order at 7:30 p.m., Sept. 10, by Pres. E. R. Root, of Ohio, who called on Rev. E. T. Abbott, of Missouri, to offer prayer. Mayor Diehl, of Buffalo, was then introduced to the convention and delivered the following

Address of Welcome.

I don't know as the Mayor can entertain you very long, but I wish to extend to you a most hearty welcome to our city, and I am sure that your deliberations will be of benefit to your-

PRES. E. R. ROOT.

selves, and not alone to yourselves, but to others. A small incident comes to my mind, which is no doubt very familiar to you, but to me, as a city man, it was very strange when I first saw it. Some twelve or thirteen years ago I happened to be in a small Alsatian village, and all of a sudden there was great consternation, and the word came that the bees were swarming. I had nothing else to do except to be—as any boy might be—ready to see anything that came along, and it amused me to see the farmers in this small village flock to where the swarm was alighting on a tree, and, with mittens on, gather the bees into baskets and carry them off with satisfaction. I inquired about it and told him I was from America, and he said, "I would like to show you something that your country is responsible for, and which has been of great benefit to the people of Alsace." And he took me into an addition to his barn and showed me a large tin tub and showed me how the Americans had taught them to get the honey out of the combs by the centrifugal method, and it, of course, pleased me as an American citizen very much, and shows me that your meeting to-night must be of benefit to you and of benefit to everybody.

I hope that, in the interval between your deliberations, you may have an opportunity to see our beautiful Exposition, which will certainly show a large number of exhibits that will be of interest to you; and not alone the exhibits but the beauty, the advancement, so to say, of civilization, in our color schemes and everything that pertains to that; and, aside from that, I hope you will also, as time permits, see not alone the Exposition, but our beautiful city. I think we have the most beautiful city in the world; we certainly have as nice homes, more asphalt streets and the finest breakwater in the world; and our commerce will certainly be enhanced by all the advantages we now have, and which our good Government has done for the city of Buffalo by placing that very extensive breakwater before our city gates.

In closing, I wish to inform you that, having just heard from the President's bedside, I think I can safely tell you that the danger line has passed, and the President will get well. And now, extending to you all the courtesies of our city, and the freedom, I hope you will accept the same, so that when you return to your homes you may have a pleasant remembrance of our city.

Rev. E. T. Abbott, of Missouri, responded as follows to the Mayor's address:

Response to the Mayor's Address.

It is surely a source of exceedingly great pleasure to me to respond to such an address of welcome, on account of its significance. Bee-keeping has not always received the recognition that it should at the hands of Government, at the hands of the cities where we have held our meetings. I have thought sometimes that the citizens of the large cities were too indifferent to what I believe to be the most excellent work which we are doing, and when it was said that the mayor of a great city, like the city of Buffalo, was expected to stop his many duties and appear among the bee-keepers to welcome them to the city, I said there must be some mistake about it. I don't know that we have ever gotten such a recognition from any city government of this size

during all of my experience in attending the meetings of the National Bee-Keepers' Association, and I have attended all of them for a number of years, and I said this means well; but a remark by the Mayor has explained the whole matter to me. I understand why it is. The Mayor is of German descent, and the Germans are the best bee-keepers there are in America, and, notwithstanding the fact that America is in advance of Germany in bee-keeping, yet there is more enthusiasm in Germany with regard to the industry than in America, and there are more Germans who have a clear and intelligent conception of farm bee-keeping than any other class of people; there are more Germans who are making it profitable in connection with other agriculture—for I look upon it as a branch of agriculture.

And now I am glad that the people of Buffalo have had the good sense to elect to this high office the gentleman who was so closely in touch with Mother Earth—so closely in touch with the soil, from which all the wealth of the land, and out of which all the glory and beauty of this great city have been builded. I say I am glad to know that the people of Buffalo have had the good sense to do a thing of that kind. It speaks well for the future of the country, for what is needed is to bring the country and the city in close touch which each other, to get the farmer to understand that he is not a "hayseed," to get the citizen of the great city to understand that all the brain doesn't walk abroad on asphalt pavements; to get these facts, these two facts, clearly before the American people will be worth a great deal; when commerce and trade and traffic join hands with the man who holds the handles of the plow, when rural pursuits and city commerce move hand in hand and co-operate with each other, then we will have reached what I believe to be the ideal nation.

I am not surprised, of course, that the Mayor welcomes us to the city. We are a great people and deserve to be welcomed! We may be farmers and ordinary professionals, a great many of us, but we are the sweetest people on top of God's earth. There isn't any sweeter people that walk the earth, men and women both, than the bee-keepers; they deal in the sweetest, purest, healthiest, noblest sweet that the world has ever known. It is distilled by the chemistry created by the Almighty alone; it is drawn out of the vital energies of the universe; it is made in a retort created by the hands of the Almighty and gathered by insects that has inhabited the world away back into geological ages, and stored away by them in a way that baffles the skill of man and defies the most expert scientific man to imitate. It is true we are told that they manufacture comb honey out of chips and fill it with glucose and sell it to the ignorant people of the city for the pure article, but we bee-people know that it is a newspaper canard. They do not do that. There isn't any manufactured comb honey. I hope that will get in print to-morrow in big letters. But I tell you what they do: The unscrupulous city man takes a little bit of real good honey and puts a great deal of real dirty, stinking mean glucose into it, and puts it into a nice-looking bottle and labels it with a nicer-looking label, "Pure Clover Honey," and sells it to the people who are green enough to buy it, and this has greatly injured our industry.

Now, to get back to my original propisition, that I was glad the city government was taking notice of us. Here is where the city government can greatly aid us, here is where the national government can aid us, when they come to our rescue and make it impossible for a man to sell anything for what it is not. Here is a work that the government of the city of Buffalo can take in hand and make it a criminal offense to sell a man a spoonful of honey and four spoonfuls of glucose all for honey. Anybody who wants four spoonfuls of glucose mixed with a spoonful of honey has a right to buy it, but call it what it is, a mixture, and let people use it as a mixture, but the bee-keepers protest against having it sold for honey, for it is not honey; it is a fraud, that is what we call it out West.

Now, friends, I think I have said enough and have taken enough of your

EMERSON T. ABBOTT.

time. I think we all appreciate the words of welcome that have been extended to us, and I want to say to you, Mr. Mayor, that we will avail ourselves of them, we shall walk on your streets, we shall go out and see the great Pan American, and, of course, this has been the greatest exposition of the kind that has ever been held, except one we shall hold in St. Louis, in 1903, the Louisiana Purchase Exposition. We wish Buffalo Godspeed, and all success, but we now, in behalf of the great, large-hearted people of the great State of Missouri, invite you to come and receive our welcome in that State of Jesse James, if you please, but of intelligence, progress and virtue, in 1903. We will have an exposition that will astonish not only the United States, but the world, for they are coming from all over the world, just as you have them here. I thought Buffalo could never have an exposition like Chicago, but I want to say to Mr. York, who lives in Chicago, that when he gets out to the Pan-American he will see that the last is the best; and it looks now as if we were going to get just as many bee-keepers together here, and if we don't get so many in number we will make up in enthusiasm for what we lack in numbers, and we will have the best North American meeting we have ever had in the history of this society. I thank you for your attention.

Dr. A. B. Mason, of Ohio—I notice here several Ontario Bee-Keepers' Association badges, and I am so well pleased with it that I am going to move you that we give to all the members of the Ontario Bee-Keepers' Association that are present with those badges on, the privileges of this floor, and to participate in all our discussions and answer questions, and to feel perfectly free and at home. I move you that we extend that privilege to them.

The motion was seconded by Mr. Abbott and carried.

Mr. John Newton, of Ontario, president of the Ontario Bee-Keepers' Association—In behalf of our Association I would thank you for your kindness to us, and this invitation to take in the discussions the same as your own members. I am sure that we will be pleased to do so, and I know that we will feel at home, just as we tried to make your society at home when we had you in our midst.

Pres. Root—We have no set program. We are trying the experiment of having just a question-box, and it possibly may be a failure, but we have some men here who, we know, if they have a mind to, can make it a grand success. A good supply of questions has been handed to the secretary, Dr. Mason, and as we have no committee on question-box, he will read the first one.

Dr. C. C. Miller, of Illinois—I think it would be well to mention in connection with this matter that any member is entirely at liberty to hand in any question that he wants discussed.

AN APIARY OF CROSS BEES.

Dr. Mason then read the first question, "What is to be done with an apiary of cross bees?"

Dr. Miller—I overheard a lady right here saying, "Kill them." If I had an entire apiary of cross bees I should want, first, to introduce some new blood of a kind that would be more gentle. This, however, is what will come in the experience of any bee-keeper who has any number of colonies; he will find after a time that he will go out some day and there will be a lot of cross bees after him, and if he takes pains enough to watch closely he will find that all those cross bees come from one or two colonies, and then all he needs to do is to kill one queen and introduce another queen; and a curious thing about that is, that a change in the disposition of the bees has seemed to be much more rapid than the change in the blood of the bees; that is, if I find one such cross colony and kill the queen and introduce another, within two weeks' time, although there would be no change yet in the bees, that is, the same bees would be there, there would be a very decided change in their deportment, and although it seems rather unreasonable to suppose such a thing to be

the case, it looks to me as if the simple presence of the queen had something to do with the disposition of the bees.

Pres. Root—Sometimes the cause suggests the remedy. Sometimes bees are very cross in an apiary under certain kinds of management. Speaking about cross bees, it seemed to me that the crossest bees I ever saw were the bees in southern California. It seemed to me that they were trained to be cross; I could not get anywhere near the apiaries without protection, and sometimes if I was half a mile away they would come out to meet me. I fell to wondering why they were so cross. The great majority of bee-keepers there produce extracted honey. Their hives are any old box, and they leave one or two inches of space between the extracting and the brood frames. When they separate the upper story from the lower one and get ready to extract they break all this comb, and it irritates the bees. The bees are what we would call a very good grade of hybrids, and they are not naturally very cross bees, but tearing the combs to pieces is apt to irritate them more or less.

N. A. Kluck, of Illinois—I have had a little experience with cross bees. In working around them, should they get cross, thoroughly smoke them and then kick the hives. I whip my bees when they are cross, and smoke them till they don't know anything.

W. L. Coggshall, of New York—I would not give them that treatment. I may kick the hives, but the bees are subdued before I kick the hive. I had a boy take off 80 top stories last Tuesday, and after the bees were subdued—you may have a wrong impression about the kicking—when the bees are subdued, they are just as peaceable as can be, and kicking them doesn't affect them; to kick off the top story wouldn't hurt anything.

Pres. Root—I have noticed that in cutting down a bee-tree, as soon as the tree falls the bees are apt to be very cross, but when one takes an axe and begins to chop away at the tree the bees seem to be demoralized. Severe smoking is liable to induce robbing.

SPRING DWINDLING AND THE REMEDY.

"Is spring dwindling a disease? If so, what is the remedy?"

Dr. Miller—How many think it is a disease?

Mr. Kluck—Old bees, is it not?

Mr. Abbott—What do you mean by disease?

W. Z. Hutchinson, of Michigan—My idea of spring dwindling is imperfect wintering. They need to have good food. Good food is the pivot of successful wintering. If you have good food and protect the bees you will not have spring dwindling. I think spring dwindling is the result of poor wintering. I would not call it a disease, unless an overloading of the system from confinement constitutes a disease.

Mr. Abbott—Doesn't a cold spring have something to do with it?

Mr. Hutchinson—I think it would have something to do with it.

Mr. Abbott—I would like to suggest that spring dwindling is frequently the result of foolish feeding. I have known a great many people to kill off their bees with feeding. Take the average farm bee-keeper and he is just as likely to cause spring dwindling by feeding his bees as to do them any good, if he feeds them late in the fall. A great many bees are provoked to fly out in the spring by foolish feeding, when, if they were left alone, and not fed at all, would not break the cluster, and the result is they wear themselves out before it is time for the queen to lay any eggs. Some people wonder why it is, and say they followed the bee-books, but the man who isn't intending to use brains in connection with bee-books would be better off without them, especially when it comes to feeding. Farmers come to me and say, "I thought my bees were a little short, and I fixed them up some syrup and put it under the hive, and I have been feeding them for a long time," when the mercury was standing down below freezing all the time, and a man who feeds bees when the mercury is in that condition is simply producing spring dwindling; and if you should define disease as an abnormal condition, I should say it was a disease.

Pres. Root—As I understand Mr. Abbott, feeding in the spring has a tendency to cause the bees to fly out, and they become chilled and do not get back.

Mr. Abbott—Not only that, but the over-activity of the bee exhausts its vitality.

Mr. Hutchinson—I thought it was the result of imperfect wintering.

Mr. Abbott—I don't believe it.

Mr. Hutchinson—Mr. McEvoy, in Canada, has very good success in wintering his bees, and he crowds them down on five or six combs of solid honey, and does that so that they can not breed towards spring, and if those combs are not full of honey he feeds them till they are full, and will not take any more food. He feeds that in the fall.

Dr. Miller—I confess, to begin with, that I do not know what is the cause of spring dwindling. It is a matter of exceeding consequence sometimes to all of us, and I would like very much if we could get at what is the cause of it. In the first place, I think we all would be very likely to agree that it is not a disease. It is a condition. Not such a condition as would be called a disease, however, and the facts that have been started are all in the line with the observation of any one who takes pains to make any observation about it at all. It would be worth something to us if we could get down to find out what is the condition that is produced. Now, it may be true, for instance, that food of a certain kind brings about that condition, but what is that condition? Will feeding and making them fly out at inopportune times make spring dwindling? and is that all there is of spring dwindling? Is it simply the fact that a number of bees have flown out and become lost? That is not spring dwindling according to my observation. It is something more than that. I don't know that I know what that condition is, but I will say this much about it, that when you find spring dwindling I think you will almost always find that the number of bees present in the hive compared with the amount of brood is always small. Now, I would like to know, as a matter of fact, whether the observation of my friends here agrees with that. Is that the common thing? It has appeared to me to be the case that, whenever I had a case of spring dwindling, there were too few bees in the hive to take care of the brood that was there. Now, if that is a common thing, I would like to know it.

H. L. Case, of New York—A few years ago, in the latter part of April and forepart of May, I lost 80 colonies of bees by what I called spring dwindling. The fall before my bees gathered a large quantity of honey-dew, and the winter was a severe one; it kept them in the hives perhaps four months without giving them a flight. Now, I believe the reason I had spring dwindling that winter, or that spring, was on account of improper food, and the conditions were improper for their prosperity; if they had had one or two good flights in the autumn, so that they could fly right out on a warm day, and have a good flight, I think it would have been better. I saved only 20 small colonies, and after the first good day that we had when the bees could fly out I didn't lose any more bees to speak of. Now, I agree with Mr. Hutchinson, that improper feeding and the conditions through winter, confining them to their hive and they consuming too much food, made them lazy, and they could not get out to relieve themselves, and the result was that I lost the 80 colonies.

Pres. Root—It is very evident that there are a good many causes that induce spring dwindling.

Mr. Kluck—Would the gentleman state the time when the bees gathered that honey-dew?

Mr. Case—It was the forepart of September. I went bee-hunting at the time. I spend some time in the fall hunting wild bees, and there was so much honey-dew on the forest leaves in my section that they would not pay any attention to honey. I could not get a bee to return to the box, and you could go into the forest and it would seem as if there was a swarm of bees, and they filled the hives full, from 25 to 30 pounds of that honey-dew in the course of, as I remember, five or six days, and they sealed it nicely, but I couldn't do much, and let it go, with the results that I have stated.

Pres. Root—How many have had experience with spring dwindling?

Dr. Miller—Now I wish, Mr. President, you would ask how many have had cases of spring dwindling in which little or no brood was present in the hive.

Pres. Root—If I understand the Doctor, he finds a condition which we sometimes find in our apiary along in March, when the bees evidently see that their numbers are small, and that they must have some brood to keep up the animal heat, and the queen lays a little more than they can take care of, and they spread out too much and die on the outside edges. I have seen the bees so spread out on the batch of brood that they would all die.

Dr. Miller—Further than that, I have had a number of cases where there were too few bees, and they have tried to cover the brood, and have apparently had a consultation and decided it was too much for them, and then all swarmed out.

J. S. Callbreath, of New York—I had a colony very strong with bees. I sent for a good queen and introduced her the next spring. I happened to be there so that I could watch, and I

looked in occasionally. I noticed, with that colony, that had so many old bees in the field, it began rearing brood much earlier than any of the others, and in a little while they were dead. It was a condition of exhausted vitality, as you have just said. They get in a hurry about rearing brood to see if they could not possibly save the colony.

Pres. Root—The remedy, it would seem, would be implied from the discussion. It would be protection, proper feeding, food given at the right time; and those are conditions that we can very well meet.

Dr. Miller—If there is anything like correctness in my diagnosis, then one thing in the remedy would be to have a large quantity of young bees in the fall, and anything that would tend to that—but I confess that I do not know whether my diagnosis is right.

Pres. Root—Proper feeding, proper protection, food properly given—and when I say protection I mean in double-walled hives or indoors, a proper indoor repository with sufficient ventilation. All these things may help to offset unusual conditions that we can not control in the way of weather, and the cause suggests the remedy.

J. S. Barb, of Ohio—I had experience in spring dwindling, and I find that double-walled hives are not very much better than single ones. As a general thing you will have a lot of old bees to start with in the fall, and that condition prevents them from rearing brood in the spring.

Pres. Root—I have noticed that the colonies were liable not to get in condition without protection. Last winter, by oversight, we left out 10 small colonies without double walls, and nearly every one of them got down to a handful. Those that were right alongside of them in double walls got through all right. It all depends upon what we understand by disease. If we take Mr. Abbott's definition of abnormal condition, then it is a disease.

Dr. Miller—Suppose you had a colony with nothing but drones in it, would you call that a disease?

Mr. Abbott—A bad one, worse than a convention with no women.

Dr. Miller—How many think that spring dwindling is a disease?

Pres. Root—Let us have a show of hands. How many think spring dwindling is a disease? Now, how many think it is not? Evidently the convention doesn't think it is a disease.

DISINFECTING FOUL-BROODY HIVES.

"Is it best to disinfect foul-broody hives?"

Dr. Mason—Yes, it is just as important to disinfect a hive as it is to disinfect foul honey.

Wm. McEvoy, of Ontario—Why not burn it up?

Dr. Mason—It doesn't pay. It is cheaper to disinfect it. Understand me, the question is, "a foul-broody hive."

Pres. Root—The question as I understand it implies a diseased hive in which there have been bees that have had foul brood, that naturally was the intention of the question.

Dr. Miller—Whatever the intention may have been, I think that Dr. Mason raises a good point there, and there is a prior question to be answered. When a colony of foul-broody bees has been in a hive, is that hive always a foul-broody hive? that is the point he wants raised.

Pres. Root—Is a hive that has contained bees that have had the foul-brood disease necessarily a foul-broody hive?

Dr. Mason—I can answer that just as easily by saying no.

Mr. Kluck—According to Mr. France, the foul brood inspector of Wisconsin, he claims that a foul-broody bee in a hive would make it necessary to disinfect that hive. He gave us to understand in our bee-convention of northern Illinois that that was so.

Mr. McEvoy—It is not possible. Understand, I have thousands of experience in the test cases for pretty nearly 25 years, and I have never had a single old hive disinfected in any way.

Mr. Abbott—Wouldn't it be a good idea if we would bring out exactly what foul brood is, and what is the nature of the disease, and where it manifests itself? If it is a germ, under what condition is that germ developed? That is, where do they locate? We know that the germ of tuberculosis locates itself in some of the glands of the human body. Now, let us get an answer from Mr. McEvoy, or some one else that has had experience with foul brood. I never had any experience but once. I know from scientific investigation that it is a germ. Now, where is that germ developed? Let these people who do not understand the theory of foul brood see why it should not get into the hive.

Mr. McEvoy—This man has asked one of the most important questions that I have ever heard put in my life. Honey, to become diseased, must first be stored in the stain-marked cells, that is, a cell where the foul matter has dried down, or where the bees are making room for more honey, when they move the honey from an unfilled cell to cells not finished; but when honey is gathered from the fields and stored side by side with these stain-marked cells, the honey in the next cell is sound. It is the only possible way to spread it. Now, take combs from a diseased colony, I don't care how badly it may be affected, if the honey is stored in these new combs that never had brood in, and extracted, and the combs given back to the bees when they are clean, these combs can be used in any hive in the world and not give disease.

Mr. Abbott—Now, then, germs appear in two conditions, the active or germ condition, and the sporadic condition. A germ, when it is active, can be destroyed—I might say in the egg condition. Now, is the germ of foul brood in the egg condition in this dry cell, or is it in the sporadic condition and carried out with the honey and developed with the honey that is put into this cell when it is in that condition? Is it practically a germ dormant in that cell and can not carry or communicate itself to another cell. and can only be imparted to another cell by honey being put on to it, and such a condition created as will hatch the egg and thus spread it out?

Mr. McEvoy—Or that honey moved to another cell and spoil it. As far as I ever went, I know that the honey falling from these cells will give the disease.

Mr. Abbott—Now, then, if that spore, as the scientific men would call it, is placed in another cell, evidently it will develop. If that spore was lodged on the side of a hive, there would not be any possible condition by which that spore would develop on the side of the hive. If it would, why, then, you would have to change your answer?

Sidney S. Sleeper, of New York—Now, are these germs vegetable or animal? In speaking of spores, that would indicate that they were vegetable germs; in speaking of eggs, that would indicate that they were animal germs.

Mr. Abbott—I simply wish to say that I used the word egg so that those people who haven't spent 25 years studying science will know what I mean.

O. L. Hershiser, of New York—Can this dried matter move itself? What I mean is, that when the bees are moved from diseased cells, then one honey is diseasing the other; but as far as it going out from these cells through the hive to enter other cells, I do not think it is possible.

Dr. Mason—What do you mean by its going out?

Mr. Hershiser—What I mean is, that it would sort of rise and go through the colony.

Pres. Root—What he means is, whether the disease would pass through the hive from one cell to another.

Mr. McEvoy—It does not do that.

Dr. Mason—I don't believe it does.

Dr. Miller—I want to confess that the President at one time straightened me out on that. I had gotten it into my head that these things were animals, and that they were eggs.

Mr. Abbott—Germs are animals, sometimes.

Dr. Mason—Are foul-bood germs animals?

Mr. Abbott—I don't think anybody in the house knows.

Dr. Miller—I think if we talk of them as seeds there will be less danger of misapprehension. Suppose the spores had gotten upon the sides of a hive. Now, if those spores were there in connection with honey, and the bees would take that honey, then you might get the disease from that hive, but I can't conceive of it in any other way. If there are spores there on the sides of the hive the bees are not going to take them up in any way. I understand Mr. McEvoy to hold that view, and it seems to me that that ought to make it pretty clear; and I confess to you that I never saw it as clearly as I do tonight. It makes me see more clearly than I ever did before, why he insists upon it in opposition to the views of a great many practical men, that it is not necessary to cleanse the hive, because if the spores are there—if the bacilli are there—they are going to die, aren't they, Mr. Benton?

Frank Benton, of District of Columbia—Not necessarily; the spores might stay there and retain sufficient life to develop. But there is no bee going to take a spore from a dry hive and take it where it will grow.

Pres. Root—The spores are in an inactive state; the bacilli are in an active state.

Mr. Hershiser—I have frequently, in working around a hive, spilled a good deal of honey and it has run down the sides of the hive. Suppose these

spores were present and the bees would carry it into the cell where there was a larva. Isn't that a case where the disease could develop?

Mr. McEvoy—Certainly.

Mr. Hershiser—Sometimes we are working with a hive where we do not give them the opportunity to secure the honey. Suppose they take the honey that is running down the side of a hive, and take it into a cell where there is a larva, wouldn't that communicate the disease?

Mr. McEvoy—Ninety-nine parts out of a hundred of it are pure.

Pres. Root—As I understand Mr. McEvoy, where he speaks of a small portion of the honey being diseased his recommendation is that all the combs or wax be burnt. In order to be sure, he considers it safe to burn every comb.

Mr. McEvoy—Yes, sir, every comb.

Dr. Mason—I have had a good deal of experience with foul brood, and I do not exactly agree with Mr. McEvoy because he is the best authority we have on earth. I do not consider it advisable, in my experience, to take foul-broody bees, combs, etc., out of a hive and use that hive without disinfecting. I would not do it. You may lift a frame out of there with the greatest of care and crush a bee with foul-broody honey in it and leave it there, and when it is so easily disinfected, I don't see why it should not be done; but if a hive has foul-broody honey on it, or in it anywhere, it is a foul-broody hive and needs disinfecting, and even Mr. McEvoy will admit that.

Dr. Miller—I want to ask Mr. McEvoy if he ever tried using a hive again that had had foul-broody bees in it.

Mr. McEvoy—Oh, thousands of them.

Dr. Miller—I would like to know definitely. I want to know something definite in numbers. Did you ever have half a dozen hives used in that way, or how many? Give us something definite about it.

Mr. McEvoy—I don't know. I suppose I could put it safely at 5,000.

Dr. Miller—Of that 5,000 how many of them ever succeeded in giving the disease?

Mr. McEvoy—Not one, that I ever knew. Not a single case, that I ever knew.

Dr. Miller—Now, if in 5,000 cases that you have tried there has not been a single failure, I am willing to take what risk there is.

Pres. Root—After I had learned of Mr. McEvoy's experience, in which he had tested something like three or four thousand hives at that time, I concluded that we would try to cure the disease without boiling the hives, and ever since that time we have found that we could cure it just the same without boiling the hive. Some years ago, when we had the disease all through our apiary, we boiled all our hives, but we left about 10 of them and thought we would see what would result. I think that there were four or five out of the ten that we left that had the disease, but I have thought since that that experiment did not amount to anything, in view of what Mr. McEvoy says that he has tried it in 5,000 cases.

Mr. Hershiser—I would like to ask how many of those apiaries have been treated more than once, and how many times those apiaries have been treated that have had foul brood?

Mr. McEvoy—That is a close question, and it is all right. You know it is one thing to handle a disease and it is quite another thing to handle the men. Some men would make a perfect cure, others, again, you would have to go to several times, and it is just how they do the work. Some of them will blunder once in a while, but it isn't the hive; they don't do their work; they often put it like this, "Well, how long will I boil the hive?" Now, that depends upon how long you intend to boil the bees; surely, you are not going to do one without the other. Are you going to take these bees that have walked all over the putrid eggs, with their dirty little feet, without boiling them? If you are going to boil the hive half an hour, I think you ought to boil the bees an hour! And I don't know a place in Ontario where they boil now.

Dr. Mason—Foul-broody hives need disinfecting just as surely as do foul-broody bees, and they can as surely, and more easily, be disinfected without boiling than can bees.

Pres. Root—Perhaps it ought to be stated in this connection that Thomas William Cowan, and quite a number of scientists across the water, feel that it is very necessary to disinfect the hives, but, as I have stated, we haven't disinfected our hives since, and we haven't had any trouble.

Dr. Mason—You haven't had foul-broody hives, then.

Dr. Miller—It seemed to me that it was a foolhardy piece of business for Mr. McEvoy to insist that there was no necessity for disinfecting, for it seemed to me there must be plenty of spores, but if you come to think about it, what is going to take those spores where they can do any harm? And the fact remains that if he has had so many cases, and *knows* that no evil results have come from them, we ought to be able to go on and do what he has done.

W. H. Heim, of Pennsylvania—I should like to know whether those are the only two remedies for the disease—by burning the combs or boiling?

Mr. McEvoy—Do you mean that you think that they can be disinfected?

Mr. Heim—Yes.

Mr. McEvoy—You can use the disinfectant till those combs will fairly smoke, and you try them over again and it will break out.

Pres. Root—I talked with Mr Gemmill and one of the other inspectors, and asked if his experience coincided with Mr. McEvoy's, and he said it did.

A Member—Do I understand Mr. McEvoy that the combs should be burned up, or made into wax?

Mr. McEvoy—I think they ought to be all turned into wax, and if made into comb foundation it is all right, too.

(Continued next week.)

Contributed Articles.

Ants Fighting Bees—A Colorado Experience.

BY D. W. WORKING.

(Small ants often make their nests about hives, to have the benefit of their warmth. They are annoying to the apiarist, but neither molest the bees nor are molested by them.—Dadant's Langstroth, 1900 edition, page 476.)

YESTERDAY I went out to look at a bee-hive where I had often noticed black ants running about as if they were perfectly at home. There were the ants, as usual, going in and out of the hive and climbing up some other way—whether to help themselves to honey or just for the fun of the thing, I may not say. Possibly their object was to get the benefit of the warmth of the hive. The day was fairly warm and sunny for early October in this land of sunshine. Comparatively few bees were passing in and out of the hive. I went out to look, as I have said. I did more; I got down on my knees to watch, for there seemed to be some excitement.

Watching quietly, as is advisable when you are close enough to see bees and ants "shake their fists" at each other, I saw what made me feel sure of a thing I had before suspected—that everything you may read in a book is not absolutely true because it happens to be in that particular book. There were the ants actually molesting the bees. Of course the bees were not "molesting" the ants; for an uninvited and unwelcome intruder is not "molested" even when you kick him out of doors for trying to carry off your property. My bees evidently did not like the assurance of the ants, and it appeared to me as if they were trying to put them out of the hive.

Now, what do you suppose these visiting old-maid ants did when they were told at the door that it was not "company day" at that house? Did they make their apologies and go home? Not they. They actually insisted on going in, as if the hives were a post-office and not a private dwelling. When a bee opposed the entrance of one of these bold intruders, she would rise on her hind feet in offended dignity, as much as to say, "Would you get in the way of a lady?" And when the bee answered that the queen's house was to be entered only by those having special invitations, this six-legged Amazon actually attacked the guard and drove it back. The same ant would attack several bees in succession, never seeming to be afraid of the sting of the bees or of their buzzing or scolding. Indeed, it seemed that it was not possible for the bees to injure the ants.

Of course I did not like the insolence of these brazen females. To force their way into my bee-hive was to insult me. Indeed, I suspect that their purpose was robbery. So I picked up the hive and set it a foot or so away from its place. Then there was excitement in antdom. On the bare ground where the hive had stood was a pile of pupæ (ants' eggs) looking like a handful of barley-grains, which the

ants immediately began to move to places of supposed safety. The terror of the ants did not soften my hard heart. Calling the chickens, I soon had the satisfaction of seeing a Brown Leghorn pullet begin the work of destroying the prospects of the colony of ants that had been making their home under my bee-hive. How she did seem to relish every fat pupa! And how quickly the other chickens learned to like ants' brood!

Now, this is not a very valuable contribution to bee-literature. Perhaps the black ants which fought my bees are not the "small ants" which "neither molest the bees nor are molested by them." At any rate, it seems worth while to report the fact. Perhaps the wise men will explain it. Perhaps they will tell me that I ought to have killed the ants long ago. At the risk of needlessly exposing an ignorance which is frankly confessed to be great, I venture to add that this particular hive became queenless during the summer, and that the colony failed to rear a queen, although supplied with two frames containing brood in all stages from the egg to the hatching bee, and that at one time there were two or three well-developed queen-cells in the hive. Is it possible that the ants might have robbed the queen-cells?

Arapahoe Co., Colo.

Working for Italian Bees—Pure Mating of Queens.

BY G. M. DOOLITTLE.

QUESTION—I have spent much time during the past summer to Italianize my bees, and think they are now all pure Italian. But my neighbors all about me have black and hybrid bees, many being kept in box-hives, so that hosts of drones are reared in these during the summer season. What I wish to know is, how I, rearing queens for my own use, can secure them purely fecundated.

ANSWER.—There are several plans for the pure mating of queens, but, up to this time, all are more or less faulty. The best of these plans are the following:

In the early spring, as soon as you can find colonies which can spare it, give capped brood to your drone-rearing colonies, and this, together with a little warm feed, given each day, will cause the desired queens to lay in the drone-comb early, through the stimulation given, thus giving you strong colonies with plenty of drones, before your neighbors' colonies rear any drones.

To secure the best results, one or more drone-combs should be placed in the center of the brood-nest at the time you give the sealed brood. As soon as any drone-brood has been capped from 3 days to a week, start to rear queens, and in this way you will have your queens ready for the first drones which appear. The main objection to this plan is, that such rearing of queens comes at a time when it is likely to interfere with your crop of honey; for in all queen-rearing the colony is thrown out of its normal condition; and whether the old queens are taken away from their colonies to give place for the desired queen-cells, or nuclei formed to take care of these cells, this interference comes at a time when all should be booming as much as possible along the line of rearing the bees in time for the honey harvest, which, as a rule, will be from 30 to 50 days ahead.

If I may be pardoned, I will say that I should consider impure stock, with a good yield of honey, very much more preferable than absolutely pure stock and little or no surplus honey.

Another plan is, to wait till fall about rearing queens, if you can preserve the desired drones, till all of your neighbors' drones are killed off, when, if there are no other drones except those you have, you will have every queen to mate with those you have.

To preserve drones, gather all the drone-brood you can find from the queens you have decided shall be drone-mothers, and mass this brood in one hive, tiering it up, if necessary, to accommodate this brood and an abundance of honey; for, the larger the hive and the more honey it contains, the better your chance of having the drones preserved in large numbers. When this drone-brood is massed, the queen should be taken away from the colony; and as often as a new queen commences to lay she should be taken away also, and this colony kept supplied with sufficient worker-brood to keep it in a prosperous condition, for on its prosperous condition depends the freeness of the flight of the drones on every suitable day. If you wish all of the drones which your queens are to mate with to be strong, robust fellows, on some cloudy day when the bees are not flying so as to endanger robbing, look this hive over and hand-pick the drones, killing all which you think are not such as you would desire. To do this best, take out the first comb and pick out as above, when it is to be put into an empty hive, set on the stand originally occupied; and thus when you have gone over every comb, and such drones as may cling to the sides and bottom-board to the hive, your colony is just where you want it, without any extra handling of frames.

You are now, in a measure, quite sure that the queens reared will come as near perfection as is possible along the line of right mating, and were it not that this plan requires much extra work, and care in feeding the queen-rearing colonies, so that fairly good queens may be reared out of season; and, also, that this late manipulation of colonies forfeits our chances of successful wintering, this would be the plan above all others to use. And with this plan I have reared queens which have proved of great value to me.

Another plan is to take a hive containing only the best hand-picked drones to some locality isolated 5 miles or more from all other bees, and as often as may be, take a load of nuclei, supplied with virgin queens from the best mother, these being from 3 to 5 days old, to this isolated place, leaving them there from 8 to 10 days, when they can be brought home with laying queens, which will, as a rule, be all mated with the desired drones. With a proper rack fixed on any light spring wagon, from 12 to 25 nuclei can be carried to and fro at one time, so that this is not so very laborious as it at first appears, and it has this advantage: The queens can be reared at a time when nearly every queen will be perfection itself, as in this way all can be reared in the height of the honey season, when the best queens can be reared with the least work.

Still another plan is to rear the queens and drones in the best part of the honey season, and, when ready, take the drone colony and as many of the nuclei as have queens of mating age, to the cellar, or some darkened, cool room, carrying them in before they begin to fly in the morning, and leaving them there till 4 o'clock in the afternoon, or till after all other drones have ceased flying for the day. If each nucleus and the drone colony are fed a little warm diluted sweet just before setting out, and the hives face the western sun, queens and drones will fly something as they usually do in the early afternoon, and the results will prove quite satisfactory.

Onondaga Co., N. Y.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

"UNREADING" ONE'S SELF.

Yes, Mr. Weaver, it is sometimes a good plan for the beginner to "unread himself" and go in on his own hook. Bees differ very greatly as to their amenability to "drumming." There are some (and very provoking ones they are) that will all get in army formation and march out of the hive wherever they can get out, if you but manipulate their frames a little. Others are like yours. Howsomever, a beginner should take a watch along for such a job, and give them a reasonable number of *actual* minutes before unreading everything—otherwise his 10 minutes might be about 2 minutes. "All's well that ends well," but the main danger of your method is that the queen may keep your strips of old comb full of brood all the while. Even if zinc is used there is some danger of getting some new honey in very undesirable shape.

GLUCOSE CAN BE FED, BUT DON'T.

It is somewhat in the line of news to be told that one *can* feed a ton of glucose to his bees. Editorial, page 579.

MILLIONAIRE BEE-KEEPERS.

Want the names of millionaire bee-keepers, eh? Well, I'm one—own a million dollars' worth of independence and good hopes—and none of J. Pierpont Morgan's paper brings in larger returns. Few vocations have so large a proportion of *real* millionaires as ours, I take it. Page 574.

THE VIRGIN QUEEN SURVIVES.

It is an interesting bit of experience from C. Davenport, that when two colonies are hived together, one with a laying queen and one with a virgin, it is usually the virgin which survives. That would naturally be the case where the bees do not ball either of them, but just let them fight it out themselves—virgin too spry for heavy old dowager. Page 582.

HOW THE SICILIAN BEE-KEEPERS DO.

We have closed standing frame hives both with and without outer shells; but the Sicilians are unique in *plastering on* an outer shell upon movable standing frames. The plastering is to be repeated after each manipulation, I suppose. With a frame only 8x8 bees are not so anxious to curve the comb around as in frames horizontally long, so quite possibly a bamboo top-bar might need no comb-guide. Page 582.

CAUSES OF QUEEN-REARING FAILURES.

And so Doolittle suspects that wrong moves in transferring the larvæ are responsible for most of the failures—the quite moderate percent of failures—in rearing queens by the Doolittle method. It is a shrewd test experiment which he suggests—take out the larvæ from some natural cells which the bees undoubtedly cherish and see if you can put others in successfully. Page 582.

HUGGING TO DEATH.

We know that the same facts can oft be read in different ways. We are pleased to hear (pleased in one sense of the term) that bees are not trying to worry the drones to death—only hugging them in the affectionate effort to dissuade them from suicide. And if, to dissuade Mr. Archibald from the suicide of extracting from combs with brood in them, just the right body would didactically and effectively hug him—well, it would be a good deed. Page 587.

POSITION OF NECTAR-GLANDS.

I think Prof. Shimek is hardly wise in his choice of words when he says that nectar-glands are concealed. The conditions of the case make it necessary that they be placed behind the spots which bees are being lured to touch unwittingly, and concealment comes in as an undesirable result. Page 588.

"ENJOYING LIFE"—SELFISHNESS.

I like the talk from Gleanings in Bee-Culture, on page 589, about the philosophy and plan of human occupation and life; but, still, I greatly wish some one could give, intelligibly and victoriously give, just a little different turn to the phrase "enjoying life." A man wrongly devoted to the enjoyment of life is a kitten running after its own tail. And in just that sort of a quest multitudes of well-bred, intelligent people make their lives into wrecks—make themselves unfit persons to be in any imaginable world which God is to stay in over night. We *must* have some banner before us which does not have "self, self, self," written all over it.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

EDUCATION.

What a wealth of philosophy, and what a mine of truth, are to be found in the familiar scriptural adage, "It is the little foxes that spoil the vine." Is it not equally true that some little word, or apparently trifling event, makes a life a man? A fond teacher in my early boyhood—one of those rare persons who take by storm the love, respect, admiration of all whose lives they touch—said a word that aroused in me a quenchless ambition for that which else I would never have secured. That word was "College." She said, what I have seen illustrated in many lives since that time, "If you wish it hard enough, you can get a college education; a thorough education would be worth more than a gold-mine to you."

I wish some happy parent, or some fortunate teacher, or some other good angel, could blaze this truth into the mind of every bright boy and girl the country over. We should wish most fondly and most earnestly that all our children should covet the very best gifts. Certainly high among the best treasures of any life is a rich, broad culture of the mind. Only one thing transcends it, and that is a rich soul-culture.

Were I to be a ditcher, or a stone-crusher in the hot sun by the roadside, I should wish a good, thorough education to be my companion then and there. The education would not only soonest lift me out of the ditch, and away from the stone-pile, but it would do even better, it would help me to enjoy the life with the spade and the hammer. One thoroughly educated can find real pleasure in the opening ditch or the breaking stone. Shakespeare was, as always, wise. Those with eyes to see can find books in the running brooks.

A good friend writes commending my "Home Circle" teaching, but wishes I could be brought to see that Saturday, not Sunday, was the sacred day. Another wishes I could be consistent and vote for prohibition. I have no retort for either. We may well remember Paul's word, "Some esteem one day better than another; some esteem all days alike." Paul did not follow this with a thrust at either. He said, "Be well persuaded in your own minds." That is very wise advice. Let us all study both these questions, and all others that divide public opinion as thoroughly as we may, then decide as carefully as we have studied, and then act upon our convictions. If we do this we shall please God, I am sure. If this results in our keeping Saturday, then well; if in keeping Sunday, then well. If it makes us vote prohibition, God will smile; if it makes us vote other tickets, God will also smile. God does not demand perfection of any of us. "Only one, your father in heaven, is perfect." He does demand earnest, honest study, as a requisite to right judgment. The good education makes the hard study easier, and the succeeding judgment more correct. The good education does, or ought to do, a better thing. It makes us charitable, tolerant towards others who also have studied and decided differently. It recognizes that all fail of deciding wisely and rightly at times; and instead of a word of condemnation to those who differ from us, we re-examine our own views, lest, perchance, we may be in error.

I keep Sunday, and generally vote the Republican ticket. I believe I please God in doing so. If my friends have studied as best they may, and have decided as conscientiously as the importance of the questions demand, then they, too, please God. God be praised for the best mind-culture. That not only helps us to right decision, but makes us kindly, charitable towards him who is led to different decision.

One of the most blessed things of our day is the greater tolerance which we give to those who think not as we do. Education, clarified and sweetened by the Christ spirit, is the glorious parent of this broader charity.

LANDSCAPE GARDENING.

In my institute work of late, I have been happy in being associated with a bright landscape gardener and floriculturist. In his lectures he gave three principles which he said should control in all laying out of home grounds, whether in the restricted city lot or in the more spacious environs of country.

First, "Avoid straight lines."

Second, "Preserve open lawn centres."

Third, "Plant in groups, not singly."

I have listened more pleasantly as we have followed two of these rules in our own landscaping. We have no straight lines in walk or drive, and I am glad curves are more pleasing than right lines. Our little white clover lawn is all the richer and more thrifty in having all to itself. A tree or shrub in a lawn almost always looks as if it fell out of place. Its foliage looks pale and sickly. My plants are isolated, and not in groups. They are not regular. On my small place I doubt if grouping would have given us more pleasure. Of course it would if more artistic, more after Nature's pattern. Is this true in such confined limits?

"DEAR DAUGHTER DOROTHY."

This is a charming story for the children. Like that fascinating book, "Captain January," it should be in all our home circles where children abound. The book makes a child do impossible things, but in such a realistic way that we forget that it could not be realized in life. It is charming, too, to see how perfect is the union in thought and feeling between father and daughter. Such a picture of home life is beautiful to hang on memory's walls. I urge every home circle to get these two books, and read them aloud in the home circle. If the scene in "Captain January," where separation is proposed, brings tears, and raises the heart throatward, we shall be all the better for it.

I remember how our whole household, years agone, generated dampness under the eyebrows, when we read "Uncle Tom's Cabin" aloud in the old home. It was good to cry. Such scenes were common wherever this great classic was read. They were good tears, and were not without influence in the stormy days of the early sixties.

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last.

FOR GETTING NEW SUBSCRIBERS.

Red Clover Queens FOR 1902 Free

Long-Tongue Variety—Warranted Purely Mated.

We have already arranged with the queen-breeder who furnished Long-Tongue Red Clover Queens for us during the past season, to fill our orders next season. Although fully 95 percent of the untested queens he sent out were purely mated, next season all that he mails for us will be **warranted** purely mated.

We want every one of our present subscribers to have one or more of these money-maker Queens. We have received most excellent reports from the queens we supplied during the past season. And next year our queen-breeder says he expects to be able to send out even better Queens, if that is possible. He is one of the very oldest and best queen-breeders. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, of beautiful color, very gentle, scarcely requiring veil or smoke.

Orders for these fine, "long-reach" Warranted Queens will be filled in rotation—"first come, first served"—beginning as early in June as possible. It is expected that orders can be filled quite promptly (even better than the past season), as a much larger number of queen-rearing nuclei will be run. (But never remove the old queen from the colony until you have received the new one, no matter from whom you order a queen).

All Queens will be guaranteed to arrive in good condition, and will be clipped, unless otherwise ordered.

A Warranted Queen for sending us Only 2 New Yearly Subscribers

In order that every one of our subscribers who wants one of these Warranted Queens next season can easily earn it, we will book your order for one queen for sending us the names and addresses of **two new subscribers** to the American Bee Journal and $2.00. FURTHERMORE, we will begin to send the Bee Journal to the new subscribers just as soon as they are received here (with the $2.00), *and continue to send it until the end of next year, 1902*). So, forward the new subscriptions soon—the sooner sent in the more weekly copies they will receive.

This indeed is an opportunity to get a superior Queen, and at the same time help swell the list of readers of the old American Bee Journal.

We are now ready to book the Queen orders, and also to enroll the new subscriptions. Remember, the sooner you get in your order the earlier you will get your Queen next season, and the more copies of the Bee Journal will the new subscribers receive that you send in. We hope that every one of our present readers will decide to have at least one of these Queens. Address,

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JAS. W. WILSON, Manager. Please mention Bee Journal when writing

GENERAL ITEMS

Had Good Honey-Flows.

My bees have done well this year. We had a good honey-flow the last of June and the first part of July from mesquite, catclaw, and alfalfa, and now have a good flow from alfalfa and wild flowers.

The American Bee Journal has been a great help to me in my bee-business. I do not see how I could have done without it.

J. S. BRIDENSTINE.

Maricopa Co., Ariz., Sept. 4.

Hairy Vetch as a Honey-Plant.

In response to the request for information regarding the hairy vetch as a honey-plant, I can say this:

About six years ago I received from the Agricultural Department at Washington a package labeled, "Sand or Hairy Vetch." I sowed a small plot with the seed, and it has grown there ever since, coming up every spring from seed grown there the year before, I suppose. It yields a fine forage, and blooms all summer—beautiful blossoms—but I never saw a honey-bee on one of the blossoms in all these years. Bumble-bees and butterflies

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36—41A4t

are frequently seen there, but never a honey-bee, although my apiary is within a few rods of there.

J. A. McDonald may refer to some other variety of the vetch, or his location may modify the length of the tubes of the blossoms. I think the vetch I have produces nectar, but the bees I have are unable to reach it. However, as I have recently purchased a long-tongued queen I am in hopes I can make a more favorable report for the vetch in a year or two. There are still a few vetch blossoms to be found, and I send you two herewith, and a spray of the leaves; also an alfalfa blossom for comparison.

It has been a poor honey season here, no surplus to speak of. J. W. STEELE.

Merced Co., Calif., Oct. 7.

The Mulberry for Bees.

When we wrote before we had taken off 500 pounds of honey, and thought we would have about 150 pounds more. When we took it off we had 500, making 1000 pounds in all, from 11 colonies, spring count.

I see quite a good deal in the American Bee Journal about the mulberry for bees. I think if we had nothing else for them but mulberries we would never get any honey. We never see bees working on the mulberry only when they can't find anything else to do, then they will work on the white mulberry a little.

Dr. Peiro said, on page 605, we should insert cuttings in July or August. If we were to do that here, it would be very few trees we would get. We have hundreds of mulberry trees, and have bushels of berries every year. I bought a package of seed for 10 cents, and from these I raised 500 trees. I think this is the cheapest way to get mulberry trees. You can buy one-year-old trees from the nursery for about $3.00 a 1000. There are male and female trees, and when they blossom the bees will work on the male trees, and get pollen from the blossoms, but those don't have any berries. If Dr. Peiro can find any cheaper way to get mulberry trees, we would like to hear from him again. R. CHINN.

Dixon Co., Nebr., Oct. 4.

Quoting the Honey Market.

I wish to enter a protest against the statement made in the market report from Omaha and from Kansas City, and signed "Peycke Bros." They say Colorado and Utah shippers are offering honey for 10 cents per pound, and in the Bee Journal of Aug. 22, at $2.40 per case. Now, as a matter of fact, the Honey-Producers' Association of Denver have been *paying* $2.75 per case all the fall, and Peycke Bros. knew it, for their man has been at Denver and called at the Association rooms. Such statements are not only an injury to the bee-keepers here, but all over the country, as having a tendency to lower the price of honey.

Peycke Bros. say in the same report that honey is selling in Kansas City for 16 to 17 cents per pound. Is not 6 to 7 cents per pound a pretty good profit?

We look to the American Bee Journal to help the bee-keepers, not to injure them, and certainly such a report does injure them.

"COLORADO."

[The foregoing was not sent us for publication, but as we have not used the writer's name, we think he will not object to its appearance.

We certainly do not want our market columns to injure producers, and are indeed glad that "Colorado" has written to us. We imagine that the "10 cents" referred to was an error on the part of "Peycke Bros." Suppose we invite them to explain the matter.—EDITOR.]

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We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog.

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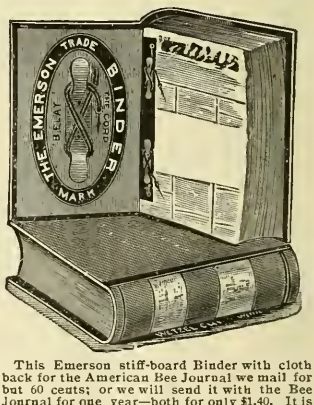

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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BEEDOM BOILED DOWN

Development of the Queen.

In Gleanings in Bee-Culture, Dr. C. C. Miller discusses the matter of queen development. After considering the time from the laying of the egg to hatching, and to the sealing of the larva, he says:

The most important of the questions, from a practical standpoint, is, "How long from the laying of the egg to the emerging of the queen?" In the American Bee Journal, Vol. 1., page 199, in a chapter of the able series of articles on the Dzierzon theory, by the Baron of Berlepsch, after detailing some experiments, he says:

"These experiments show that the opinion generally entertained, that the queens emerge between the 17th and 18th day after the eggs are laid, is correct."

The time of writing this, however, antedates the publication of the Journal, 1861; and elsewhere in general throughout the volume 16 days is accounted the proper time. Indeed, on page 266, Dzierzon gives a definite case in which the time was only 15 days. Sixteen days has of late years been accounted the orthodox term, I think, in general, in all the books excepting Cowan's, which gives 15 days. This year I thought I would refer the two latter questions to the bees, so as to get a positive answer in at least one case. July 18, at 10 a.m., I took from No. 85 its brood, leaving in the hive foundation and one comb containing some sealed brood, this comb having been kept for more than a week where there was no possibility of a queen laying in it. Four days later I gave this comb to No. 35, after having removed from No. 35 its queen and brood. July 26, at 10 a.m., when the oldest brood could not have been more than eight days old, I found 20 sealed queen-cells on the comb, and seven unsealed. The proof is clear and positive that these 20 cells that were sealed contained larvæ not any more than eight days from the laying of the egg. It is reasonable to suppose that the seven unsealed cells contained younger larvæ. Desiring to save all the cells, I did not wait till any of the occupants were quite 15 days old from the laying of the egg, but opened the hive at 9:45 a.m., Aug. 2. I was doomed to disappointment, for seven young queens had already emerged.

In this case there could be no question. The cells were sealed in eight days; and allowing three days in the egg, there were five days of feeding; and the queens emerged in 5 days from the laying of the egg. These figures agree with those of Mr. Cowan. It should not for a minute be supposed that they admit of no variation. But it is probable that, under normal condtions, they may

PAGE

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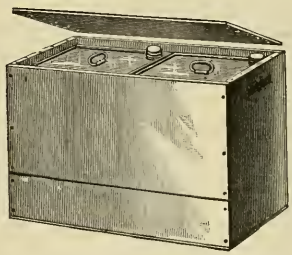

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A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 8 cents per pound; four or more cans, 7½ cents per pound. Basswood Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are boxed. This is all

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The finest of their kinds produced in this country.

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I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more marked flavor, according to my taste. C. C. MILLER.

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Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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be relied upon as coming as near the average as anything that can be given. The question may arise, why it is that 16 days for the full development of a queen has so generally been agreed upon. Many of the observations have been made, not upon full colonies, but upon nuclei. Development will be retarded in nuclei. In the American Bee Journal, Vol. I., page 143, Father Langstroth reports a case in which a queen in a nucleus was 21 days in coming to maturity. In my early days of bee-keeping I knew no better than to have queens started in nuclei, and I had cases like that of Father Langstroth. But in full colonies I have had many, many incidental proofs that 15 days was the limit. Ought we not to change our belief from 16 to 15?

Hiving on Foundation.

Foundation, full sheets of it, is something that a newly hived swarm does not like; at least, Messrs. Hall and Alpaugh, of Ontario, assert that such is the case; that they are much more likely to swarm out when hived on full sheets. Mr. Alpaugh says he believes that bees don't realize at first what foundation is for—that they don't comprehend at first that they can make combs of it. When they find themselves in a hive filled full of sheets of wax placed 1⅛ inches apart, they say to themselves: "This is no place for us. There is no opportunity to build comb here with the space all divided in this way. Let's get out of it." Mr. Alpaugh prefers to hive in an empty box, which gives the bees an opportunity to cluster contentedly in a natural manner, and then set a hive, furnished with sheets of foundation, over the box. Gradually the bees clamber up on the foundation, discover its nature and their opportunities, and box below will be deserted—but sometimes not until quite a little comb has been built.—Bee-Keeper's Review.

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Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

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A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

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Send 25 cents for a year's subscription to our Journal, and we will send book. Plans for Poultry-Houses, free. Six months trial subscription to Journal, 10 cents. INLAND POULTRY JOURNAL, Indianapolis, Ind

29Dtf Please mention the Bee Journal.

Introducing Queens.

Mr. Alley has introduced thousands of virgin queens by the following method: The nucleus is kept queenless for three days—72 hours—then the entrance is closed with a plantain leaf, the bees given a dose of tobacco-smoke through the feed-hole in the top of the hive, and the queen immediately run in through the same place, and the hole is closed. By morning the leaf is dry enough to blow away, and offers no obstruction to the bees. He uses the leaf to keep the bees in, and so that they may not recover too quickly from the effects of the tobacco. He says failure is practically unknown. One of his plans for immediate introduction of a fertile queen is to remove the old queen, drive all the bees from the combs into the cover or a box, drop the new queen into the cluster, and let the bees go back to the combs at their pleasure. Again, pick the old queen from the swarm, and let the new queen drop among the bees as they are entering the hive.—ARTHUR C. MILLER, in the Bee-Keepers' Review.

Prevention of Increase.

Although not prevention of swarming, it is given after this fashion in the Bee-Keepers' Review:

Hiving swarms so as to prevent increase, and secure good results in honey, is managed as follows by Mr. J. B. Hall, of Ontario: The first swarm is hived upon the old stand, and the old hive placed by the side of it. On the eighth day all the bees (queens and all, if any are hatched) in the old hive are shaken down in front of the swarm that was hived eight days before on the old stand; any remaining queen-cells are mashed down, and

Standard Belgian Hare Book!

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THIS book of 175 pages presents a clear and concise treatment of the Belgian Hare industry; its growth, origin and kinds; the sanitation and construction of the rabbitry; selection of breeding stock; care of the young, feeding, diseases and their cures, scoring, marketing, shipping, &c. First edition of 50,000 copies was sold in advance of publication.

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via the Nickel Plate Road daily, with limit of 15 days; 20-day tickets at $16 for the round-trip; 5-day tickets at $6 for the round-trip on Tuesdays, Thursdays and Saturdays, the latter good only in coaches. Through service to New York and Boston and lowest available rates. For particulars and Pan-American folder of buildings and grounds, write John Y. Calahan, General Agent, 111 Adams Street, Chicago.

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WILL SELL my half interest in one of my apiaries consisting of 300 colonies, 20 miles off N. G. R. R. Have too many irons in the fire to attend to is the reason. At your command.
GEO. ROCKENBAUGH, Yaguajay, Cuba, W. I.

the next swarm that issues is hived on these combs of sealed brood. Mr. Hall says that a swarm won't stay if hived on combs of unsealed brood, but that it will stay on combs of *sealed* brood. He says further, that swarms don't like full sheets of foundation.

Returning Swarms to Parent Stand.

Editor Root, in Gleanings in Bee-Culture, gives a modified plan which some may like, only it must always be borne in mind that there would be severe loss if enough bees did not promptly hatch out to take care of the brood, especially if a cool night should come. He says:

Our neighbor, Vernon Burt, has succeeded as usual in getting a good crop of honey. He returns all the swarms to the parent stand, giving the swarm a hive of empty combs, then putting the super from the old hive on top of the new one. If the weather is warm, he shakes or brushes *all* the bees off the combs of the parent hive, and then moves it to another location. Hatching brood will usually come out in time to take care of the young brood. In this way he gives the swarm all the strength it originally possessed; and by so doing he finds he gets the best working force possible. This plan is a combination of the return-swarm plan and of the Stachelhausen brush-swarm idea. But he says he is always careful to see there is hatching brood to make sure that the unsealed brood will not starve. He takes the further prevention of brushing only during hot weather. Of course, during the swarming season there will be no robbing, and no fear need be entertained from that source.

Rocky Mountain Bee-Plant Seed!

(*Cleome integrifolia*)

...FREE AS A PREMIUM...

The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows fromtwo to three feet in hight and bears large, clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

We have a few pounds of this Cleome seed, and offer to mail a ½-pound package as a premium for sending us **ONE NEW** subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.

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CONVENTION NOTICES.

Chicago. — The executive committee of the Chicago Bee-Keepers' Association has ordered that the next meeting be held all day and evening, Dec. 5, 1901, at the Briggs House club-room. This is arranged on account of the low rates to be in force then for the International Live-Stock Exposition in Chicago at that time (Nov. 30 to Dec. 7), being one fare plus $2.00 for the round-trip This notice goes by mail to nearly 300 bee-keepers near Chicago, and should result in the largest attendance we have ever had. Dr. C. C. Miller and Mr. C. P. Dadant have promised to be present. Let all come.

HERMAN F. MOORE, Sec.
GEORGE W. YORK, Pres.

Colorado — The Colorado annual meeting promises to be a genuine success. The program has been made out for a number of weeks, and is almost ready for publication. It has come to be a privilege and an honor to read a paper before our Association, and so very few decline who are invited to write or speak for lustruction. One paper is already in the hands of the secretary. On two or three nights a big magic lantern will illustrate talks by famous students of bees and the bee-industry. And then we are going to have an exhibition of the choicest honey in the United States (made in Colorado, you know), and wax, with bees enough to show "how the thing is done."

If you want to know more, or have forgotten the dates (Nov. 18, 19, 20), write to the undersigned, box 432, Denver, Colo.

D. W. WORKING, Sec.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white).....	$ .60	$1.00	$2.25	$4.00
Sweet Clover (yellow).....	.90	1.70	4.00	7.50
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White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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What have you to offer and at what price?
34Atf **ED WILKINSON, Wilton, Wis.**
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Wanted Fancy White Comb Honey in no-drip cases; also Extracted Honey. State price, delivered. We pay spot cash. FRED W. MUTH & Co., Front & Walnut Sts., Cincinnati, Ohio. Reference—German National Bank, Cincinnati.
40A5t Please mention the Bee Journal.

Wanted Comb and Extracted Honey!

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Wanted—Honey.

Car Lots or otherwise: will pay highest market price, spot cash. Address, stating quantity, quality, and price desired at your station. Will send man to receive when lot is large enough to justify. THOS. C. STANLEY & SON,
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Wanted Comb Honey and Beeswax. State price delivered in Cincinnati.

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$6.00 to Buffalo Pan-American and Return—$6.00,

via the Nickel Plate Road, Tuesdays, Thursdays and Saturdays, with limit of 5 days from date of sale, good in coaches only. 15 day tickets at $13.00 for the round-trip, and 20 day tickets at $16.00 for round-trip, good in sleeping-cars. Three through trains daily. For particulars and Pan-American folder of buildings and grounds, address John Y. Calahan, General Agent, 111 Adams St., Chicago. 39—41A4t

Catnip Seed Free!

We have a small quantity of Catnip Seed which we wish to offer our readers. Some consider catnip one of the greatest of honey-yielders. We will mail to one of our regular subscribers **one ounce** of the seed for sending us ONE NEW subscriber to the American Bee Journal for a year with $1.00; or will mail to any one an ounce of the seed and the American Bee Journal one year—both for $1.30; or will mail an ounce of the seed alone for 35 cents.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Oct. 10.—There is a very good trade in No. 1 comb honey at 15c per pound; that which will not grade No. 1 or fancy sells at from 13@14c; some small lots of fancy have brought more than 15c; light amber selling at 12@13c; the dark honeys of various grades range at from 10@11c. Extracted sells fairly well at 5½@6½c for white, according to quality and flavor; white clover and basswood bringing 7c; light amber, 5½@5¾c; dark, 5@5½c. Beeswax steady at 28c. R. A. BURNETT & Co.

CINCINNATI, Aug. 10.—The honey market is rather dull on account of the warm weather. Extracted sells only to manufacturers from 5@6c; better grades alfalfa water-white from 6@7c; white clover from 8@9c. Fancy white comb honey sells from 13½@15½c.

C. H. W. WEBER.

BOSTON, Oct. 12.—Fancy 1-pound honey in cartons, 16c; A No. 1 in glass or cartons, 15c; No. 1, 14½@15c; very little No. 2 being received. Light amber extracted, 7¼c.

BLAKE, SCOTT & LEE.

ALBANY, N. Y., Sept. 19.—We quote: Fancy white comb, 16c; No. 1, 15c; mixed, 13@14c; No. 1 buckwheat or amber, 12@13c. Extracted, white, 7@7½c; light, 6½@7c; dark, 5¼@6c. Beeswax, 28@29c.

H. R. WRIGHT.

OMAHA, Aug. 8.—New comb honey is arriving by express in small quantities from Iowa and Colorado, and selling at $3 50 per case in a retail way. California extracted honey is being offered carlots at 4½@4¾c per pound, f.o.b. California shipping-points, but we have not heard of any sales having been made thus far. The production of extracted honey seems to be quite large this year in Colorado, Utah and California.

PEYCKE BROS.

NEW YORK, Oct. 18.—Comb honey is in good demand and finds ready sale at the following quotations: Fancy white, 15c per pound; No. 1 white, 13@14c; amber, 12c; buckwheat, 10@11c. Extracted rather quiet at 6@6¼c for white, and 5¼@6¼c for amber. Beeswax rather quiet at 27@28c. HILDRETH & SEGELKEN.

DES MOINES, Aug. 7.—There is very little doing here in new crop of honey. Some small lots of near-by produced comb honey are on the market and selling in a retail way at $3.50 to $3.75 per case. We do not look for much trade in this line before Sept. 1. Our market does not consume a great deal of extracted honey.

PEYCKE BROS. & CHANEY.

DETROIT, Aug. 12.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.

M. H. HUNT & SON.

SAN FRANCISCO, Oct. 9.—White comb, 10@12 cents; amber, 7@9c; dark, 6@7 cents. Extracted, white, 5½@—; light amber, 4½@—; amber, 4@—.

Offerings of both comb and extracted, especially of other than most select qualities, are ahead of the immediate demand at full current rates. There is little selling pressure, however, and market is ruling steady as to values.

KANSAS CITY, Sept. 14.—Up to the present time only small lots of new comb honey have been on the market, and these met with ready sale on the basis of 15@16c per pound for fancy white. For next week heavier receipts are expected and quotations are issued at $3.10@$3.25 per case for large lots, which would be equal to about 14@14½c; the demand being quite brisk, a firm market is anticipated. Inquiries for extracted are a little more numerous, but large buyers still seem to have their ideas too low. In a small way 5½@6c is quotable.

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RED CLOVER QUEENS

BLACK ROCK, N. Y., Sept. 3, 1901.

FRIEND ERNEST:—I will try and tell you what you want to know about that queen. I got her of you in 1899 as a premium with GLEANINGS. I never saw a small colony of bees build up as that one did. In the spring of 1900 they came out in fine shape, wintered perfect. I raised them up in May and gave them 8 frames more so the queen would not want for room. I never saw such a colony of bees as they were in June, and they were actually storing honey when other bees in my yard were starving. No! they were not robbing. I never saw those two best colonies of mine trying to rob. THEY CERTAINLY WORK ON RED CLOVER. This is no guesswork, as I have seen them. As you know, the past two seasons have been very poor, and what honey my bees did get in 1900 candied soon after cold weather set in. I packed this colony in a chaff hive and left them out, thinking that such a strong colony would winter perfect. The snow came on the middle of November, and those poor bees never a fly until the last of March or the first of April. When warm weather at last came I thought they were dead, as they did not seem to be flying much, so I did not pay any attention to them until in June. I noticed they were working a little, so I opened up the hive and found them in the upper story. I took the lower story out and left them in the one body. The queen was laying nicely, and I thought they would make a good colony to winter. Along the last of July I noticed that they needed more room. I gave them super, 24 boxes, and in a few days they had it full. They have made 72 boxes of as nice honey as you ever saw, and are drawing out some starters now, Sept. 2.

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" " " Tested Queen	4.00
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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., OCTOBER 31, 1901.

FORTY-FIRST YEAR
No. 44.

WEEKLY

APIARY OF MR. R. A. HENDERSON.—See page 692.)

THE AMERICAN BEE JOURNAL

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GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

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The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

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OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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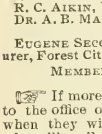
A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., OCTOBER 31, 1901. No. 44.

Editorial.

National Association Elections are held annually in December, that is, the election of general manager and the successors to three members of the board of directors, whose terms expire with the end of each year. The executive committee (composed of the president, vice-president and secretary) are elected at the annual meeting of the organization.

Referring to this subject, though more particularly to nominations in advance of the election, Editor Hutchinson said this in the Bee-Keepers' Review:

Nominations in advance of the election of a general manager, and the directors of the National Bee-Keepers' Association, would be very desirable. As it is now, when a member receives a voting-blank, he does not know for whom any other member will vote. In his desperation he votes for the man whose term of office is about to expire. As a result, each officer succeeds himself, year after year. Should it ever become desirable to elect a new man, it would be well-nigh impossible with the present system. This question was discussed by the directors present at Buffalo, but they were unable to devise a plan that seemed wholly satisfactory, and it was finally decided to have the matter taken up in the bee-journals for discussion.

The foregoing was sent to E. R. Root, one of the directors, for his criticisms or suggestions. He considered it brief and to the point, and passed it on to Bro. Abbott, who is chairman of the board of directors. He penciled on the back of the sheet the following:

"While it is desirable to keep the same parties in office as long as they attend to business, and give satisfaction, yet it is important not to have too many directors in one locality, and to place in office men who will attend the annual meeting as often as possible."

The suggestion that we put in directors and a general manager who will attend the annual conventions as often as possible, is worthy of consideration. At the Buffalo convention six of the directors were present (one more would have given us a quorum), and we did more business than could have been transacted in weeks or months of correspondence. There is nothing like a face to face discussion of a knotty question. Other things being equal, we should give our preference to those men who are usually present at the annual convention.

This is a matter that we fear will never be satisfactorily arranged. To nominate a certain man (or men) in the bee-papers in advance of the election will hardly do. Who will name them? How many nominations are there to be? Suppose a hundred members nominate as many different candidates, what is to be done?

We noticed last year that some of those whose terms of office did not expire at that time received quite a number of votes. This, of course, was useless. It might be well to print the list of holdover directors, and above them put this:

"Don't vote for any of the following, as their terms of office do not expire this year."

Nothing need be said about those whose terms do expire—not even mentioning their names; then let the members vote for whom they please.

It might not be a bad idea for each annual convention to nominate three candidates for general manager, and nine candidates to succeed the three whose terms expire with the following December. Then these nominations could be announced to the members when sending out the voting blanks. Of course, any others could be voted for if preferred, but very likely one of the three would be elected general manager, and three of the nine would be elected directors.

We commend the foregoing suggestion to the consideration of the membership of the Association, to be acted upon next year, if thought best. Of course it is too late to make use of it this year. The old method will likely have to prevail once more.

We feel perfectly free to speak out on this subject, as we are not now an officer, nor are we seeking any office in the Association, believing that the more prominent and wiser ones should manage its important affairs.

Long Tongues Per Se.—In the Bee-Keepers' Review for September, F. B. Simpson disclaims the intention of teaching that long tongues are of no value *per se*. It was said on page 451 of this journal that it was doubtful if he meant to teach just that thing. But his words—"I believe the long tongues are of no value only so far as they represent an increase of vigor"—*seem* to teach just that thing, at least a Straw in Gleanings in Bee-Culture, and an "Afterthought" in this journal, show that others so understood. But a man who is doing as good work as Mr. Simpson may easily be forgiven for failing in a single case to make himself rightly understood.

Deficiencies of Bee-Books.—Every now and again the novice makes the charge against his text-book that it lacks the very thing he most wants to know. The text-book on bee-culture that is perfect is yet to be written, and the probability is that it will never be written. Yet it is doubtful that more truth about bee-keeping could well be gotten into the same space. It must be remembered that no matter how full and complete a bee-book may be within the limit of a certain number of pages, there can not of necessity be full minutiæ upon all points that may arise. New complications will always be arising that will raise questions which can only be answered by some one of experience, and for the very purpose of answering such questions a department in the American Bee Journal and in some other journals is constantly maintained. The readers of this journal need never hesitate to make free use of the department of "Questions and Answers." Especially are questions allowed, and even solicited, from our regular subscribers who have made careful study of the text-books.

Study carefully your text-book, and become familiar with it; for the question department is not intended to take the place of the text-book, and after you are familiar with the contents of any good work on bee-culture, you will ask intelligently questions whose answers will be useful to many others. But don't ask too much of the text-books, and don't expect a study of them ever to leave you without some question that needs answering.

Warming Combs.—When Wm. McEvoy gives additional combs of honey in the spring, he takes the precaution to have these combs warmed before being put in the hive, by keeping them in a *very warm* room until they are warmed clear through, as he relates in the Bee-Keepers' Review. If one stops to think, this will appear a rational proceeding. The combs in the hive, whether full or empty, will be of about the same temperature as the cluster of bees, so far as the combs are included in the cluster or touching the sides of cluster. Now suppose the cluster is divided to receive a fresh comb of honey, or even if it be placed close up against the cluster, it is easy to see that the bees would be thereby chilled, and perhaps serious damage done. Mr. McEvoy is doing a wise and paying thing to warm the combs that he gives. Of course these combs are given in the evening, and then there will be little fear of robbing.

Hairy Vetch was mentioned on page 611 as a possible new honey-plant. Mr. M. M. Baldridge, of Kane Co., Ill., called recently and brought with him a sample of the vetch, which was still in bloom. It is a sort of trailing or vine-like plant, growing as much as four feet in length, and has long, purple flowers. He has not seen a bee on the bloom, so is inclined to doubt its value as a honey-plant in his locality.

Mr. Baldridge says the vetch is the same plant as tares referred to in the Bible as having been sown among the wheat by the Evil One. It is almost impossible to separate the

tares (vetch) from the wheat without destroying the latter.

Vetch is usually sown with timothy or some other tall-growing plant which aids it to stand up.

If any of our readers know vetch to be a nectar-yielder in their locality, we should be pleased to have it reported; also time of sowing, and how to grow it successfully.

Introducing Queens with Tobacco, Editor Hutchinson says, has resulted in occasional failures, and he adds: "I am beginning to think that we will never find an infallible method. There will always be some bunglers in the ranks."

Weekly Budget.

MR. R. A. HENDERSON'S APIARY is shown on our first page this week. He is in this (Cook) county. He began last spring with 11 colonies, and he says: "With the American Bee Journal and 'A B C of Bee-Culture' as my guide, I increased to 45 colonies, by rearing and buying queens; and took off 1500 nice, finished sections." Mr. Henderson succeeds because he puts sense and enthusiasm into his work with bees. Of course, his good location makes up the rest, as nothing else could replace the lack of that.

MR. A. L. BOYDEN, of the A. I. Root Co., is soon to visit the West Indies—Barbados, Jamaica, Cuba, Trinidad, etc. Also Rambler (John H. Martin) is to "trip it" through Cuba with bicycle, camera, etc. There is no more enterprising concern on the continent than the publishers of Gleanings in Bee-Culture. And that elegant periodical shows the wonderful amount of work and expense constantly bestowed upon it. It richly deserves all the success with which it is meeting these autumnal days.

MRS. CLARA WEST EVANS, one of the subscribers of the American Bee Journal, has been nominated as a candidate for superintendent of schools for Allamakee Co., Iowa. The local newspaper where she lives, besides giving an excellent picture of the nominee, has this to say among other endorsements:

"Mrs. Evans has the health, energy and ability which fit her for the duties of superintendent of schools, and if elected would do her best to meet the requirements of that office. As a business woman she is thorough, honest and reliable. After the death of her husband, three years ago, she assumed the management of his business, and by reason of study and close application, ranks to-day as one of the most successful apiarists in the State of Iowa. She has held various offices of trust and responsibility in church and lodge wherever residing."

Some people don't believe in women going into politics. Neither do we—in the kind of politics most in evidence to-day. But some day politics will be cleaner. It would be cleaner now if only men and women of the stamp of Mrs. Evans were allowed to have official power. What is needed is less politics and more manhood and womanhood in our officials—less party blindness and more righteousness in the voters.

The Buffalo Convention.

Report of the Proceedings of the Thirty-Second Annual Convention of the National Bee-Keepers' Association, held at Buffalo, New York, Sept. 10, 11 and 12, 1901.

(Continued from page 680.)

FUMIGATING COMBS WITH BISULPHIDE OF CARBON.

"How soon may combs that have been fumigated with bisulphide of carbon be given to bees without killing the bees?"

Mr. Benton—I have frequently used bisulphide of carbon and used the combs an hour after that; but if you put a whole colony of bees in, there would be a chance of killing the bees. I don't think there is any danger in a few hours. It evaporates very rapidly.

Mr. Abbott—I don't think that bisulphide of carbon would affect anything in 3 minutes after if it is not confined. Bisulphide of carbon won't affect anything if it is not confined, and you can pour all the bisulphide you please on a comb in the open air and it will all be gone in three minutes, and I don't see how you could kill the bees without it being confined.

Mr. Benton—The odor would be disagreeable; I don't think it would kill them.

Mr. Abbott—I use it for keeping the moth from eating up the paste that I paste my papers with. I pour a little in a saucer and in a few minutes the moths are all killed. I do not hesitate to open the can and breathe it, but if it was confined I wouldn't want to stay there.

Dr. Miller—I would like to ask this question: Does bisulphide of carbon kill the eggs of the bee-moth?

Mr. Benton—I think it does. I never have had them develop in combs that were thoroughly subjected to bisulphide of carbon. I would stack up eight or ten hives and put half a pint of bisulphide in there and let it stand several days; some of those combs that had stood two or three months in hot weather; there were eggs there I know because other combs developed.

Dr. Mason—I had some extracting-combs that I noticed the worms working in, and I piled them up and put a teaspoonful of bisulphide of carbon in a dish on top of the frames, and in two or three days when I examined them there wasn't a sign of any worms but dead ones.

Dr. Miller—We have been using sulphur, and now we are told bisulphide of carbon is better, and we want to know about how much better. Now, in using sulphur, if the combs have in them the larvæ of the bee-moth, I wish Mr. Benton would tell us a single word that we can use. At any rate, these worms, when they have attained any size—say if they are half an inch or an inch long—you may sulphur them so thoroughly that you will have everything green, and those big fellows will still be alive and happy after they come out again. Now, will the bisulphide kill those old chaps?

Dr. Mason—It will kill every one of them, every time. I overlooked a hive this summer that had wormy combs in it, and when I discovered it they were great big fellows, and in an hour's time after using the bisulphide every one of them was dead.

Mr. Barb—I would like to ask Mr. Benton whether he applies that bisulphide above or below.

Mr. Benton—On the top, because it is heavier than the atmosphere. I put an empty super there and set a little tin can in there—perhaps half a pint, or teacupful, for quite a stack of hives.

Mr. Abbott—Did I understand Dr. Miller to say that sulphur gas will not kill the big worms? I have never seen anything that I could not kill by sulphur gas. Seriously, I think you are laying down a proposition that seems to be contrary to all scientific investigation. If there is anything that breathes that can live in sulphur gas, I have yet to see it. I used to be in the patent medicine business, and we had a vat in which if you had hung anything from an elephant down to a mosquito it would kill it.

Dr. Miller—I don't know of any way to get it sufficiently strong by ordinary means.

Mr. Case—My business down in Ontario County a few years ago was raising hops. I found a colony of bees one time, when I was drying hops, that the worms had destroyed, and I says, "Now I have a chance to fix you." So I took the combs that were a mass of worms, and put them into a small sack and put them into that kiln which was perhaps 20 feet square, where we burn all the way from 25 to 50 pounds of brimstone in about three or four hours, and I took pains to hang them on the wall with a stick so that I could get them up as near as possible to the ceiling to get the benefit of the brimstone; and I left them there all night and burned the brimstone myself, and when I took them out in the morning the worms were alive.

Mr. Abbott—Was that kiln air-tight?

Mr. Case—There is ventilation at the bottom, but the air is full of brimstone.

Mr. Hutchinson—Has any one used gasoline for killing moth-larvæ?

Pres. Root—We have used it for killing ants. We made holes in the nests and poured gasoline in instead of bisulphide of carbon to kill ants.

Dr. Miller—The statement was made in an obscure (?) journal, (I think it is called Gleanings), the statement was made that it had been used to kill the larvæ of the bee-moth, and in connection with that the editor stated that he had used it to kill ants.

Dr. Mason—Will the sulphur fumes kill the eggs?

Dr. Miller—No, sir.

Dr. Mason—Well, the bisulphide will, and there is no sense in using sulphur when you can get the bisulphide. Now I pile up the hives as high as I can reach, eight or nine. I don't think I poured over two teaspoonfuls in, and it killed every worm.

W. J. Craig, of Ontario—I have been making some experiments with the bisulphide, and have piled the hives up in the same way, but I found that the eggs developed into a grub inside of a week, while it killed the larger larvæ. At the same time, when I used the drug in an air-tight vessel it killed the grubs and destroyed the vitality of the eggs as well, but with piling the hives up I find that only the grubs were destroyed.

Mr. Benton—Of course, it would be better to be absolutely air-tight.

Mr. Craig—I am sure that I used two ounces of the liquid to ten supers, and I put it top and bottom.

Pres. Root—Then you probably had only an ounce on the top, if you divided the amount. That would hardly be sufficient, would it, Mr. Benton?

Mr. Benton—I think it would be, if of good quality.

Pres. Root—We have found a good deal of difference in the quality of the bisulphide. Sometimes we have had it good and sometimes bad.

Mr. Benton—I would like to state that it is extremely explosive, and if this were used in a room one should never go into the room with a lighted lamp, or candle, or pipe, or any fire whatever. It is to be handled with great caution. I called attention to it in a publication of the Department of Agriculture about five or six years ago. I would like to know whether it had been mentioned before for this purpose.

Pres. Root—I don't remember seeing any mention of it.

On motion the convention adjourned until 9 a. m. the next day.

SECOND DAY—Wednesday Forenoon.

The meeting was called to order by Pres. Root at 9 o'clock.

ANNUAL PROCEEDINGS IN PAMPHLET FORM.

"Should the proceedings of the National Bee-Keepers' Association be published annually in pamphlet form for distribution to its members?"

Mr. Hershiser—I feel very much interested in the work of the Association and the extension of its membership, for the reason that in order to carry out its aims it is necessary to have a fat treasury, and be able to have funds on hand to use when necessity requires. In order to get members it is necessary to show them that they get something. Almost everybody when approached to join an association like this, the question immediately occurs to them, What is there in it for me? Now, there are a great many bee-keepers in the country districts that should be members of the Association, but they are not members simply because they do not see that they are going to get anything out of it. They don't expect to be prosecuted for keeping bees. The chances are very remote for people living in country districts to be prosecuted; it is only in the case of some difficulty arising between neighbors. Now, if you can show a bee-keeper that he is going to get something out of it, it is very much easier to get him to join the Association; and anticipating that these proceedings might be published in pamphlet form, I have induced seven or eight people to join the Association with the idea that they were going to get something valuable. A discussion of these questions of bee-keeping by the different bee-keepers from the different parts of the country are very valuable if the bee-keepers can get them. I think that it would be a good idea to have these proceedings published in pamphlet form, and every member to get a copy, and, if that is the case, I think that that is the best means of extending the membership and making the Association strong, and getting the two or three thousand members that so many of us ardently desire.

Franklin Wilcox, of Wisconsin—In addition to what has just been said, I might say that I think that every member of the Association that pays his dues is entitled to a knowledge of all the proceedings of the Association. He should have it in some form. The question as to whether it should be published in pamphlet form is the question in my mind. If it is published, as heretofore, in the American Bee Journal, or any other journal, and each member of the Association furnished with a copy of that journal, whether a subscriber or not, it covers all the requirements, in my mind, and would save some expense. The expense of publishing it in pamphlet form is the only objection.

Mr. Hershiser—I would say in answer to the question of expense, that it is for that reason we want to go to the expense. If it is profitable to go to the expense, then we want to go to that expense.

Pres. Root—As I understand, the American Bee Journal containing the copy of the report has heretofore been sent to every member.

Mr. Wilcox—That covers all the requirements, as far as I can see.

C. J. Baldridge, of New York—Last year I didn't get the American Bee Journal.

George W. York, of Illinois—I think last year I offered to send all the copies of the American Bee Journal containing the report upon receipt of 10 cents. Perhaps some of the members didn't get notice of it.

Mr. McEvoy—I think that would cover all—ten cents—and have it published in the American Bee Journal; and those who aren't members could get it for 10 cents.

Mr. York—I had no idea when I made the offer that the proceedings would run through so many numbers. I wouldn't care to make such an agreement again. I might say that I agree with Mr. Hershiser, that it ought to be published in pamphlet form, and I know that the expense would not be any more than the Association could stand. It is much nicer to have a pamphlet with the proceedings to hand to a new member, than to try to get copies of a bee-paper with the report. For instance, six months from now, if you had this report in pamphlet form, the secretary could mail a copy to a new member. I think that the proceedings published alone, as they were published after the World's Fair convention in 1893, would be much more satisfactory. I think it would be for the best interest of the Association to get it out in pamphlet form, and have extra copies so that every new member could receive one during the year. You then have something to offer to new members, otherwise you have simply nothing until they get into trouble, or see that they are helping the general cause of bee-keeping by paying their dollars.

Pres. Root—Of course, you understand that this discussion is advisory for the Board of Directors.

Dr. Mason—I may say that heretofore the Association has shared the expense of the stenographer with the American Bee Journal, but at the Philadelphia convention the bill was paid by Mr. York alone, and this year also he pays the stenographer. If the Association expects to get any of it outside of what he puts in the American Bee Journal, I suppose the members will have to pay for it.

Mr. Abbott—I wanted to say that I have felt all the time that we were making a blunder by not publishing the reports in pamphlet form independent of the American Bee Journal. I believe that such reports give tone and character to a society. I have felt all the time as though we were a kind of Cheap John affair, simply because we trusted to the papers to circulate our literature, as though we were not able to stand alone. I have intimated as much to the general manager, but he and some of the Board of Directors seem to think that a Cheap John arrangement is just as good as any other arrangement. There are some bee-keepers who are keeping bees according to the old methods that prevailed 50 years ago, and 50 years ago we would not have needed any report of that kind in order to promulgate our interests, but the time has come now when we need a report, bound and separate, independent and distinct from any paper, any journal or anything else, and as a newspaper man I know that there can be enough advertising put in the back of the pamphlet, if necessary, to pay for issuing the pamphlet; in fact, I am not so sure but I can find an advertising solicitor who will undertake to issue the pamphlet for the sake of the advertising that he can get in it. I understand that we are near the thousand mark in membership, and we are going to pass it at this convention, and if you have not given your dollar to help pass this thousand mark, we would be glad to have you do it now. I am glad that this matter has been brought up. We can get character and influence outside of the bee-keeping fraternity by having a thing of this kind. For instance, a man down in Kansas City is adulterating honey. I want to sit down and write to him with regard to it. I say to him: "Dear Mr. Smith, I mail you today under another cover a copy of the proceedings of the last National Bee-Keepers' Association. It includes the names of officers, and the constitution, and explains our aim and purpose, and shows what we are trying to do. Now, we don't want to make any warfare on your business, but you will notice that we are a thousand strong, and unless you stop your adulterating we shall have to bring the law to bear

on you." A business man sometimes is known by a letter-head. If I get a letter from a business house on a Cheap John piece of paper I generally chuck it into the fire and pay no attention to it. But if I get a neat letter, printed nicely, on good paper, written in good style, proposing something in a business way, I say, "There is a firm that stands for something," and I write to them. These things tell in the world, and we want to use the things that are used by other business men. The spending of a few dollars for a report will do more, in my opinion, to help the bee-keepers of the United States than anything else we can possibly do.

Dr. Miller—I am convinced by some of the arguments presented now, as well as some other things, that the use of such a report might be an excellent investment; that, even if it does cost something, it will bring in more than goes out, and on that same line I endorse the thought that we don't want it on the Cheap John line. We have taken in the money and can get out a clean report. I believe if we are going to go on the dignity order, we would better keep it clear of everything but the reading.

Dr. Mason—Mr. York informs me that a thousand copies of the proceedings can be published in pamphlet form, and a copy mailed to each member, for $100.

N. D. West, of New York—If we get the pamphlets printed, would it not be a good plan to have more printed than our membership, so that others could obtain them for a certain stated price, the amount to be thrown into the treasury to help maintain this organization? And notwithstanding the report is printed in pamphlet form, we would expect it and want it in the American Bee Journal just the same. In regard to the advertising in the back part of the book, I do not see that that would materially injure our pamphlet, if it was gotten up in a neat and attractive shape. It is necessary for us to save all the expense we can in regard to these things, and yet we do not want to do anything that would be any injury or injustice to the pamphlet itself; but there are a great many not here today that would like a pamphlet that belong to this Association, and which might be an encouragement to get others to join the Association later on.

Mr. Hershiser—I move that this convention request the Board of Directors to print the proceedings of this convention in pamphlet form, and to issue a sufficient number to supply each member with a copy, and such additional number as they may think best.

Dr. Miller—I second that motion.

The motion was carried.

Dr. Lee H. Smith, President of the Buffalo Society of Natural Sciences, was then introduced to the convention, and gave the following address of welcome:

Dr. Smith's Address of Welcome.

Mr. President, Ladies and Gentlemen:—I trust you will continue to remember me as plain Smith, not the one who adulterates honey, but the one who is doing all he can for the advancement of information and of science in the city of Buffalo. It was with very great pleasure that we received information from the National Bee-Keepers' Association that they would meet in Buffalo, as we desired very much to entertain this organization, and hence we wish to state to you that these rooms are yours during your stay here. We have this meeting room, and also several other rooms in connection therewith, in which your directors and committees may meet, and, of course, anything that we can do to render your stay here agreeable and pleasant we will be very happy to do.

Nearly 20 years ago the citizens of Buffalo subscribed nearly three quarters of a million of dollars for the erection of this building. It was to be the home of the Public Library, of the Academy of Arts, of the Historical Society, and of the Society of Natural Sciences. Since then the Fine Arts have outgrown the limits of the building, and a public-spirited citizen of Buffalo, Mr. Albright, has provided them with a very beautiful building, which you will notice as you enter the Pan-American grounds. This will be the headquarters of the Fine Arts. Their place in this building has been taken by the Public Library, which was formerly supported entirely by private subscription and membership, but within the last ten years it has grown so great that the city has fathered it, and now devotes nearly $75,000 per year for its maintenance. The ground upon which this building stands was donated by the city.

Of course, this is simply an idea of what the spirit of the citizens of Buffalo is in regard to educational and scientific work. Everything is being done by the city that they can to favor and further the work of such organizations as this. The presence of the bee-keepers is simply another step in the interest that is felt in this city in the subject of bees. Nearly ten years ago one of our most lovely members, the Hon. David F. Day, a man of great learning and of ability, a botanist, perhaps without equal in the United States and in the world, suggested that it would be a very interesting and valuable thing if the subject of the honey-bee could be brought more nearly to the understanding of the public. The matter was canvassed by the board of directors of the Society of Natural Sciences, and it was thought that possibly the general public was too busy with other affairs, and had lost interest in such matters, and that it would be better to begin with the young. After considerable consideration, the question of giving an exhibition, in these rooms, of the honey-bee, to the children of the advanced grades in the public schools was taken up. The Society made the offer to the Superintendent of Education, and to the Board of Education, and it was very agreeable to them.

We had long known Mr. Sleeper, who was familiar with the bee from A to Z. I entered into correspondence with him, suggesting that he bring here some bees and give a public demonstration to these children of the different classes, answer questions, and give them an idea of the interest, the usefulness and the wonderful instinct of the honey-bee. Mr. Sleeper very kindly accepted this invitation, and came on here in winter and these rooms were thronged with the pupils of the public schools in the 8th and 9th grades, with special classes from the high school, and with classes from the various private schools. At that time we had in the city also a school of pedagogy in which advanced teachers were given courses. This school also came down here and went over the exhibit very carefully. The result was a profound success of the enterprise. I don't think that any departure made by the Society of Natural Sciences brought it more valuable returns in the way of interest of the public in its work. We extended that system of teaching to other departments. We sent, for instance, collections of Indian relics, of animals, of birds. We have classes here from the schools that meet to study birds. But it began with the honey-bee. It was a case where the sting of the bee opened the ball, and our department in this line is the most successful of the branches of the Society of Natural Sciences.

Mr. Sleeper, I may say, almost made himself a martyr to this cause of science, in that one of the very coldest days he was due here to lecture at the rooms, and in getting his bees to the station and in getting them in here he was taken with pneumonia, and lay at death's door for some time. It was a matter of very serious sorrow to us all, and we had then to call upon Mr. Hershiser, who very kindly offered to continue the course of lectures, owing to the illness of Mr. Sleeper. This department will steadily be continued.

You see, therefore, that we owe a great debt to the bee-keepers, and in inviting you among us, and being able to offer you some little entertainment—a place to meet, or some few little things—we can, in some measure, give you an idea of the debt of gratitude we owe to the bee-keepers. I have also given you a little suggestion of what is being done here in regard to the study of the honey-bee, of what great interest the study of this subject is to the general public, and I hope to see the time when every school shall have in its course a study of the honey-bee, with a practical demonstration. It is a wonderful creature and the subject is fraught with the greatest scientific interest in all its departments.

The diseases of the honey-bee are something that every scientist views with the greatest interest, and you gentlemen with practical knowledge of those subjects can do so much to advance the scientific inquiry in regard to the diseases that are common to the lower orders of insect life. Of course, the same general line of diseases that kill the honey-bee kill many of the insects that are destructive to vegetation, and a whole world of inquiry is opened up by the study of this one little insect whose cunning is so marvellous.

I wish to thank you most kindly for your attention, and again I wish to welcome you most heartily to our rooms.

(Continued next week.)

Requeening Every Year is coming more in favor all the time with Adrian Getaz (Bee-Keepers' Review), although bee-keepers quite commonly prefer to leave to the bees the task of requeening. With young queens he has fewer drones and less swarming. But some will object that annual requeening gives less chance for thorough establishment of a reputation for queens to breed from.

Contributed Articles.

No. 1.—APICULTURE AS A BUSINESS.

Plant-Growth Conditions in the Arid and Irrigated Regions.

BY R. C. AIKIN.

FOR two years the general honey crop has been rather limited. The great forage-plant of the West—alfalfa—is not much grown outside of the irrigated districts. Drouths and other causes have worked against the main source of the East—white clover—and the Eastern short crop has made a demand for honey from the irrigated districts.

I observe that the people are prone to jump at conclusions, both in general and in particular; and, regarding honey-production and apiculture as a source of a living income, an analytical discussion dealing with facts and figures touching the industry as a business seems timely and much needed. Among the things that lead me to this discussion, are the rash ventures made by inexperienced ones going into the business without due investigation and consideration. But, how are we to reach these people? My thoughts through bee-paper channels will entirely miss the most of these rash enthusiasts, for they do not read such literature, many of them possibly but little of any kind, especially of a scientific nature. However, many now in the business more or less, and who do read our literature, some who are planning to extend their business, or, perhaps, to change locations, may be benefitted by a discussion such as I am about to undertake.

ALFALFA.

Two things that need to be understood better are sources of honey and the dependence to be placed in them. There is a prevailing opinion throughout the East—many Westerners share in it—that the two main sources of the irrigated districts—alfalfa and sweet clover—are a certain supply, never failing. This is one of the things that must be considered in the business calculations. If an annual yield of a given number of pounds per colony can be obtained, we have somewhat to build upon.

When I came to this place the farmers here were making an effort to grow red clover, and many fields of it were to be found all over this district, although alfalfa was the main hay crop. Two years I obtained quite a crop of red clover honey, then the clover ceased to exist. So far as soil is concerned, any and *all* the clovers do exceedingly well. I have never seen anywhere such immense growth and *bloom* on white clover as I have seen here; but while this is decidedly a clover soil, white and red clover will never succeed in general. Our climate is so dry—so many months in the late summer, fall and winter without sufficient rain to keep the ground moist—that the clovers do not get started, or, if started, are soon killed out by drouth. Irrigating water begins to get scarce in August, and in September and October we can scarcely get any. Just now—October—there is but a very limited water supply. I get many inquiries from the East about our country—this answers many.

In winter and spring—particularly late winter and early spring—is when most of the snows fall upon the mountains. When they are having their greatest precipitation in the Missouri and Mississippi valleys, we are having ours, too, but ours mostly falls upon the mountains. The general trend of air currents is from west to east, and the high, cold mountain tops condense and precipitate moisture from the Pacific; thus the moisture is, as it were, strained out of the air before it gets to us, hence the country at and near the mountains on the east is a dry one.

Beginning at the "foot-hills" (first hills of the mountains, and I use distances on a magnificent scale), is the dry or arid region. This arid region continues arid, but gradually changing to one of more humidity as distance increases from the mountains, until when the Missouri valley is reached, 400 to 600 miles from the mountains, the rainfall becomes sufficient to make farming a reasonable success. Precipitation varies as air currents vary because of high or low mountains and other physical arrangements of the country.

The reader will comprehend that in the spring, as the weather begins to warm, the accumulated snows begin to melt and flow out of the mountains; but keep in mind the great altitude of the "Rockies" and you will understand that spring up there is late. Comparatively little water gets down before April, the greater part coming in May and June. We depend upon spring rains to start the crops growing, and, by the time they are started, melting snows above bring water for irrigating. There are other reasons, however, for starting crops without irrigation, but not necessary to discuss them here.

Remembering, then, that there is but little water to apply to the soil in early spring, rather from early fall till late spring, you will see how almost an impossibility it is for white and red clover, or *any* shallow-rooting plant, to live here. The red clover fields planted here 10 to 12 years ago soon winter-killed, *simply and purely for lack of moisture*. Only such as send long, thick tap-roots deep into the ground, and such plants as by nature are fitted to withstand drouth, these only can survive here. As an illustration, buffalo grass will become almost *perfectly* dried, yet retains vitality and responds when moisture comes again.

These conditions necessarily limit our flora to such plants as are peculiar to arid districts, and the principal of these, aside from the California region, are alfalfa, sweet clover, and cleome. The former is grown of necessity, because timothy, clover and ordinary hay and pasture grasses cannot be grown here. Sweet clover is just in its element of soil and climate here, and while an unwelcome addition so far as the farmer is concerned, yet it flourishes along ditches, roadsides and everywhere where there is plenty of moisture, if it is not cultivated out. While sweet clover *endures* much dry weather when once started, it is not by nature an arid-region plant. It grows most luxuriously by ditches and water-courses, and around the edges of swampy lands. Because the alkaline soil is its natural soil, and its long tap-root can reach deep to moisture, it makes quite a growth in quite dry soils, though depending upon rains to start the new plants. It is a biennial. Alfalfa is of the same nature as sweet clover, but will not stand quite so much moisture in the way of a wet, soggy soil. Alfalfa is a perennial, whereas the other clovers are more truly biennials, hence the former once established grows on and on indefinitely, roots becoming one to two inches thick, and 10 to 20 feet long, penetrating almost straight down. Alfalfa never reaches its best until about the third year.

Now, while in some localities there is more or less wild bloom that gives a surplus honey, so far as the irrigated regions are concerned as a whole, we have but three sources of honey—alfalfa, sweet clover, and cleome, in the order named. The first is now famed the world over, the second is a common and well-known plant in all beedom—so far as its reputation goes—and the third is probably confined to the mountain regions, including all arid districts. Cleome is decidedly an arid region plant, likes a sandy soil, and growing where neither alfalfa nor sweet clover will. Not one of these plants is absolutely sure as a honey-yielder. Each needs its peculiar conditions to make it succeed, both in making a growth, and in nectar-yielding. My own field has the three sources; first in importance is alfalfa, second sweet clover, and last cleome—this latter not in quantity to give a surplus with the great numbers of bees to work upon it.

As to conditions necessary for the plants, I will briefly give my opinion, but consider this only as an opinion, for I am not certain. Alfalfa needs to be well irrigated, and have a rich, healthy growth, then bright, hot weather while blooming. It does not yield well in the morning. Sweet clover is much the same as alfalfa, though to yield well I think it needs a more humid air, and probably less heat, showery weather seeming best. Cleome yields pollen in the morning, is visited by the bees before alfalfa is scarcely touched, and evidently does best with cool, moist weather. While cleome will grow almost from the dry, hard road, yet I believe it secretes best with rather cool weather and occasional showers. Not living in a region with abundance of cleome I am not so well qualified to speak of it.

I have harvested much alfalfa, also quite freely of sweet clover, and a little cleome. Because of irrigation keeping some fields of alfalfa in *prime* condition every year, we seldom fail to get more or less honey from it; but that it yields a *paying* crop every year is not true. In 12 years I have not taken at most more than six fair to good crops, and of these, generally speaking, I may say two were alfalfa, two red clover and two sweet clover. But, while two were almost exclusively alfalfa, four were mainly so,

and all were more or less mixed. Two seasons, if sweet clover had not come to my aid, my crop would have been a failure. Three and four years ago sweet clover gave me my surplus, while this year and last alfalfa was almost the entire crop, sweet clover growing in abundance but almost a complete failure so far as nectar was concerned.

These things are facts and conditions to be considered in our business calculations, hence I discuss them in this initial article on apiculture as a business. The irrigated regions are more certain to have *some* honey every year, but what is an abundant or partial crop and no income from it?

We will continue the business aspect of apiculture.

Larimer Co., Colo.

Introducing Queen-Bees by the Improved Method.

BY W. W. M'NEAL.

It devolves upon me to write further of the method of introducing queen-bees, recently submitted for the benefit of the readers of the American Bee Journal, and which was referred to Wm. M. Whitney.

I wish to say that I have no ill feelings whatever towards my opponent; neither is it love for discussion that brings me before this intelligent audience of bee-keepers. In taking up the subject again I do so because there is a *practical* principle involved which honey-producers cannot afford to ignore.

Mr. Whitney now professes to be very much surprised (see page 653) that I should take seriously his statements antagonizing one of the grandest truths which have been given to the bee-keeping world. If he *knew* the position he took was not "tenable," then what motive had Mr. Whitney in taking the position at all? If the assertion be true—"love, hatred, generosity, and selfishness" are unknown qualities in the make-up of the honey-bee, how does Mr. W. harmonize this with his former statement that the honey-bee is "prompted by the highest type....of love and patriotism?"

This, however, is not the point directly at issue and I must not linger here. I did not "take seriously" the words of my esteemed fellow bee-keeper, though it seems that he is pleased to place a lower estimate upon his writings than I was wont to accord him.

Now, what I specially wish to ask of Mr. Whitney, and all who are interested in apiculture, is to try the method I give you for the safe and practical means of introducing a queen-bee. In the name of progress, I ask of you, at least, to *try* the plan and see if it is not good.

I have tested it and find that I can introduce a queen-bee safely into any colony where a queen-bee can be introduced by any other method; and, in many instances, more successfully than by any plan of caging. I know others can do what I have done if they pursue the same course. One does not need to be an "expert;" in fact, the system is pre-eminently adapted to the "beginner." The fact that these teachings are not recorded in the pages of any of the recognized works on bee-culture does not signify that they should not be there.

I hope no one of the readers of the American Bee Journal is so impractical as not to be able to recognize a good thing till it is written in some text-book.

Instead of throwing cold water on a principle that has real merit, why doesn't Mr. Whitney come out and do the proper thing and advise those beginners against the folly of purchasing such valuable queens as he seems to have in mind? What use has a beginner with a queen so valuable that he cannot make use of her?

Consider the rapidity with which queens may be exchanged, and the time thus gained, when time means honey, eventually stored by bees reared from eggs laid by the queen during the interval the advocator of the caging method would have her confined in a cage!

When the queen of a strong colony is taken away and introduced into another by caging her, I believe that it will be safe to say that a week's time will be required for the queen to reach her former proficiency in egg-laying. Now, all this causes the new queen to appear at her worst *at the very time when she should be in her best physical condition.* The colony thereby becomes impatient from the inability of the strange queen to fill the place of the one taken away, and shifts its hopes to the rapidly-developing larval queens; thus, in a measure, she becomes a prisoner awaiting execution by her younger rivals.

To show further the utility of immediate introduction of the queen, let me relate that I have found no difficulty in thus introducing queens into colonies from which the old queen has not been removed. This is no "idle dream," and what I have done you can do.

Where a colony occupies two sets of combs, take the old queen and a frame or two of the brood and place them in the upper story over a queen-excluding honey-brood. Now close the hive and smoke the colony from the entrance while pounding lightly upon it to frighten the bees thoroughly. Do not use smoke enough to drive out the bees, but a moderate smoking while pounding on the hive frightens them so efficiently that the stranger queen may be allowed to run right into the hive from the entrance; and she will occupy the lower apartment as wholly as if the former queen had been removed.

These are facts, and I give them as freely as the air we breathe, because I want to help as I have been helped.

Suppose you do make one or two unsuccessful attempts, is that sufficient cause for you to cast the thought aside as being destructive to the best interests of both the bees and bee-keeper?

Lest some should even yet not understand, I repeat in all simplicity: Have your stranger queen at hand when you take away the reigning one. Disturb the colony as little as possible while catching the old queen; when she is found, close the hive and smoke the colony from the entrance, pounding on the hive, of course, while doing this. Do not smoke the bees constantly, but smoke and pound alternately, for two or three minutes only; then allow the new queen to run into the hive by holding the cage up close to the entrance so that she may not escape in the air. Send a puff or two of smoke into the hive after her, but don't pound on the hive any more. The object is to frighten the bees as much, and the queen as little, as possible. See?

Next, be content to let a good job alone for a few days and do not disturb the colony. A frightened queen is almost certain to run up against her doom, be it in her own hive or in the midst of stranger bees.

I cannot continually call your attention to these living truths; so again I ask that they be tested upon the earliest opportunity; test them thoroughly, and I know that they will stand with you as they have stood with me.

Scioto Co., Ohio.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Troubles of an Amateur—Uniting Colonies and Introducing Queens.

I have subscribed to the Bee Journal and invested in the "A B C of Bee Culture" in the hope of being able to answer my own questions, but, unfortunately, I find myself farther at sea than ever, from the fact that the experience of nearly every bee-keeper is directly at variance with that of every other, and even the directions given by the same apiarist contradict themselves constantly.

For instance, my first instructions were, "Keep your colonies strong;" so, having several small colonies, I concluded to look up "Uniting Bees." After getting some general directions, I came to "I would advise deferring the uniting of bees until we have several *cold, rainy days* in October;" but further on I find, "Beware of having weak colonies to be united in the fall. Much safer to have them all united long before winter comes." Now, which shall I do—"defer until winter," or "unite long before winter?"

Again, I intended to introduce an Italian queen, so I ordered one and got directions to "remove the old queen at least three days before introducing the new one." I did this, but the queen was killed. So I ordered another, and read that the proper way to introduce a queen was to "get the old one out, thoroughly frighten the bees, and run in the new one before the bees know what has happened." I tried this, and also failed. Now, should you wait three days or not wait at all? The advocate of each plan says he has succeeded with 99 out of 100. I have failed twice out of twice.

The trouble with bee-books seems to be that either they tell everything except what you want to know, or they presuppose that you know all about it and merely want the book to see how much better we know it than the authors.
MISSISSIPPI.

ANSWER—I enjoyed your letter with a broad smile, and am thankful that you could not answer all your own questions. Yours seems such an intelligent sort of ignorance, if I may be allowed the expression, that it is a pleasure to answer your questions, and I may say to you that whenever you reach the point where you can answer all your own questions I have a whole lot that I'd like to have you answer. But it is to be a secret between you and me that I don't know all about bees.

Now I'll see what can be done toward reconciling the apparent contradictions that seem to trouble you. "Keep your colonies strong" is Oettl's golden rule, and if any one of the four words in it should be emphasized, it should probably be the first, making it read "*Keep* your colonies strong." Now, if you keep all colonies strong there will be no need of uniting at any time. But the best you can do will always be likely to have some colonies that are not strong. If you use the nucleus plan of building up colonies, of course they will be weak at the start, building up as the season progresses, and there will be some that fail to build up satisfactorily; some colonies will become queenless and weak; indeed, there are different ways in which good bee-keepers may have, each year, colonies so weak that they should be united. But you must try to prevent having weak colonies late. "Beware of having weak colonies to be united in the fall." Better unite not later than August, while bees are gathering and not inclined to quarrel, and while brood-rearing and other work is going on, so that the united colonies will have plenty of time to be fully settled into one harmonious whole before cool weather comes. "Much safer to have them all united long before winter comes."

But through carelessness, ignorance, or, perhaps, for some entirely satisfactory reason, October may come and find you with some colonies so weak that they will stand a poor chance of getting through the winter. It doesn't do any good to say reproachfully that they ought to have been united in August. They were not united in August, and the question is what to do now. They are not gathering and so are inclined to be quarrelsome, and if united at a time when very active a good many may be killed. A few days' waiting will make no material difference, for everything is at a stand-still; so "I would advise deferring the uniting of bees until we have several cold, rainy days in October." Then the bees will be inclined to be somewhat dormant and little inclined to fight; and, besides, they will be more likely to cling to any new location without flying back to the place from which they were taken. Now, don't you think I have made a pretty good job of reconciling what seemed to you contradictions?

But when it comes to the matter of queen introduction, I'm afraid I can't satisfy you so well. All the different ways of introducing queens, with various modifications and adaptations, would make a book of itself; and constantly new plans are being given that are said to be infallible, which, upon further trial, are not found to be *always* successful. I know of only one way that may not fail one time in a hundred, or oftener. Take two or three combs of just emerging brood (no unsealed brood, which would only die of starvation), close them in a hive with the new queen, so that no strange bee can enter, keep the hive in a warm place if weather makes it necessary, and, after five or six days, open the hive on the stand which it is to occupy. You will see that there is no chance for the queen to be molested, for not a bee is present which has ever formed allegiance to any other queen, and, of course, every worker born in the hive will be loyal to the queen present. Other plans have their exceptions. You tried two plans, each of which had succeeded 99 times in a hundred, and in each case you happened on the one time in a hundred, or else there was some little thing in which you did not minutely follow out instructions. One plan may put the new queen in the hive at the time of removing the old one; another may leave the hive queenless several days; and one plan may be as successful as the other, providing the proper instructions for *each* are fully carried out.

It may be some comfort to you to know that you are not the only one who has made a failure. "There are others." But as you gain experience your failures will become less in number. Yet, unless you do better than I have done, you will fail occasionally in introducing a queen as long as you live.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

LONG TONGUES AND LONGEVITY.

Having duly "banged" the long tongues, I begin to think we must choose some big gun and bang him against "longevity." 'Pears like certain brethren approve the work of certain colonies in the yard and credit it to longevity, when they have never tried to *know* anything definite about it beyond their own imagination. Has any careful, scientific-minded brother ever published any set of experiments showing two side-and-side colonies as differing much in longevity? We may not find all bees rigidly alike in term of life, but at present there is too much possibility of it for such jumping at conclusions. Perhaps what is *usually* credited as short-livedness in a colony is really such a lack of constitutional health that a large percentage of the young bees emerge alive but worthless. Page 599.

MR. DADANT AN EXEMPLAR VACATIONIST.

For bee-keepers on vacation bent, C. P. Dadant is an excellent exemplar. Go to some nice town which has not been spoiled by tourists. Page 597.

EDITORS AND CORRESPONDENTS THAT "SPAT-TER."

And so our editors must not "spat" so much, but just follow Paddy W. T. S., and hit every head in sight. Page 598.

A PACE FOR GUESSERS.

Thank you, Comrade Miller, for setting a good pace in the matter of guesses. We don't agree to replace them with new ones in case they fail to give satisfaction. Page 602.

SETTING MULBERRY CUTTINGS IN JULY.

Mulberry cuttings to be set in July, Dr. Peiro says. Some of us so dull as to think that all cuttings should be set in the spring, of course. And we would make a total failure of it, very likely—and then scold the man who said mulberries could be raised easily from cuttings. Page 605.

A NEW "BEE-SOCIETY."

I'm afraid that the bee has a life-membership in the Get-your-name-up-and-lie-abed-till-noon Society—this in respect to accurate mathematics, and in respect to neatness, and possibly in respect to some other things. Page 605.

BEE-ESCAPE IN CORNER VS. CENTER.

I am no authority at all on bee-escapes, but my conjecture is that escape in corner is a great improvement on escape in the center of the board. With a quiet mass of bees above and below, which feel in communication with other—why should they do anything special to change so satisfactory a situation? Looked at theoretically we should suppose that the main thing is to make them *want* to get out, which they will not do until they feel isolated. Page 605.

FLAX-WASTE AS PACKING MATERIAL.

In my boyhood I saw flax-waste, and my memory is (nicely prodded up by page 606) that it does repel water somewhat. If we could only turn the wheels of time and civilization backward, and again have a flax-patch on each farm and flax-waste in each barn, how nicely we should pack bees for winter in an improved material! But my impression is that some materials which take water reluctantly will take it in the course of a few weeks, and then be as stubborn about drying out as they were about getting wet. How is that with flax?

THAT CANADIAN WINTERING-BOX.

As Mr. Alpaugh (page 606) has not yet put his wintering-box to test, only invented it, we are quite in order if we tell our minds as to how it will turn out. I'll say that the joint heat of the colonies will keep up the temperature inside quite a bit—when there is no need of it—also in severe weather before the bees have got to worrying, and much of the mischief has been already done; but when there is the most need of its working—in severe weather before the bees begin to worry—perchance he will find a thermometer in an empty box and one in his ten-colony box just about the same.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

FRAUDS, HUMBUGS AND SUPERSTITIONS.

Is there anything in this world of ours that is grander, and more delightful to the soul, than genuine truth, entire absence of pretense, perfect ingenuousness? On the other hand, is there aught that is more repellant, more discouraging in society, than fraud, humbug, superstition, all—or anything that maketh a lie? Among the most blessed fruits of our high development of science is that she unearths frauds, reveals humbugs, and dethrones superstitions. She stamps her great, honest foot hard on whatever maketh a lie. How generously education touches her patrons to bless and to help. Is not one of her brightest crowns, that she so *summarily* dumps out of the mind its superstitions?

PATENT MEDICINES.

No doubt Holmes voiced a grand truth when he said that it would be a blessed thing if all the medicine of the world was dumped into the ocean; but, he added, it would be awful on the fish. As a learned and experienced physician, Holmes was entitled to speak. If he had prefixed medicine with "patent" how much more of truth would have been uttered. It is fearful to note the great floods of advertisements of patent medicines that fill the pages of our newspapers. Millions of dollars are poured annually into the cesspool of the newspaper. It is awful to think of the amount of these vile compounds that are gulped down by a too trusting and suffering people. A synonym for patent medicine would be FRAUD, in capital letters and underscored. This is patent, for are they not heralded forth as cures for all maladies? And are not all the tricks of the most artful, skillful and expert advertising agents employed to get these concoctions of the Evil One into the hands and stomachs of poor, suffering humanity? The poor, sick one grasps at a straw, and is too feeble often to judge, and so jumps from the frying pan of aching members and lacerated tissues into the fire of diseased tissues and organs swathed in poisons or hurtful concoctions.

How difficult for the most learned and competent physician to rightly diagnose a disease; and, when rightly determined, how difficult to find in medicine a cure or palliative. And yet the deluded victim of the patent-medicine vender gulps down the atrocious potion, all ignorant both of disease and remedy. It seems strange that any one possessed of judgment and reason can ever be duped into patronage of the patent medicine chest. The discouraging feature is that sickness dethrones judgment and reason as her first legacy. Will we not all, in our various home circles, lift our loudest voice against this greatest fraud of the century?

THE MOON.

At our Farmers' Institutes a very frequent question is asked, even in cultured Southern California, to-wit: Should the farmers observe the moon's phases in planting and gleaning? Of course, I always say plant when condition of soil, cultivation, and season of the year are right; and only watch the moon to see when to take evening rides with the "gude wife" or one's best girl. And yet when I say this, I see many a head shake which speaks dissent. It is passing strange how any such superstition hangs on when it once gets a foothold in one's beliefs. This belief, so utterly void of any scientific basis in truth, I suppose comes down from our credulous forefathers, and from the fact that *good* tillers who practice watching the moon usually have good crops, as they surely would had they never heard of the moon, or noted whether they saw it over the right or left shoulder. It is good to talk all such absurdities over with the children and bury them in wholesome laughter, for such burial is rarely followed with resurrection.

FRIDAY, AND THE RIGHT SHOULDER.

It seems impossible that in our day, when science shows the absolute absurdity of all such nonsense, that anyone would be disturbed by seeing the new moon over the left shoulder. Yet such is often the case. The person is usually advanced in years, for the science of today is hard on such tomfoolery. I have known not a few, some of them men of intelligence, who would never commence a new work or enterprise on Friday. They usually blush to own the fact, and do not pretend to have any reason for the opinion; but superstition is usually so inwrought in their make-up, that they feel that it will be dangerous to disregard this old law. Such persons still dread ghosts, and are haunted with the hundred and one other nonsensical beliefs in signs and sayings that are utterly without foundation, and which, like belief in witchcraft, will soon be only known to history. It will be a good riddance. There are so many grand beliefs that take hold of our very lives and help us to better thought and nobler action, for us to waste thought or energy on all such baseless claptrap.

THE STADIUM AT THE PAN-AMERICAN.
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ROAD-SIDE TREES.

What is there in this world that is more worthy of admiration than a fine avenue of trees? There is one of peppers and another of blue-gums not far from Claremont. I always drive to these and through them when I have visitors. Often the visitors will exclaim in surprised delight as we turn upon these lovely vistas. Can anything be finer than such avenues of trees? Ask the students who have enjoyed the elms of Cambridge and New Haven. Would not our home circles be philanthropists of the best kind, if they would undertake to secure such avenues along all our highways? I believe that if we combine utility and beauty, we show still better sense and judgment. So in the East, why not add to the honey-resources by planting great rows of fine lindens, or the equally umbrageous tulips? In the South the tulip and the Judas-tree are not only beautiful, but each comes each season with beautiful flowers laden with most delicious nectar. In California the encalyptus is very handsome, is a strong grower, stands drouth well, and by a judicious selection of species we can have blossoms and nectar each month of the year. All have showy flowers, which, in some species, are very beautiful.

USE OF PROPER WORDS.

I have learned to have such respect for our good and genial friend, Mr. Hasty, that I rarely skip anything he writes, and as rarely find aught to criticise. So I was surprised that he suggests to let a bad use of words alone, as it will be useless to combat it. I say, Never. If a word is wrongly used, so as to mislead or work mischief, "go for it" with all the might, coat off, and shirt sleeves rolled up.

Yesterday our pastor spoke of coral insects. He might as well say "woolly birds," or "hairy snakes." Indeed, he would not have been as wide of the truth. Coral animals belong to a branch wholly distinct from that of insects. The old word "strained" rarely peeps up now in descriptions of honey. Why? Because it was a mischievous misnomer. We hit it hard blows, and, happily, knocked the very life out of it. "Larva" is correct. "Worm" means a thing wholly different. The added syllable with truth to stand on should not vex anyone. The recent bulletins regarding our beloved President did not confuse the terms digestion and assimilation. Of course not, the physicians know and practice the right use of words, and do they not show good sense?

I should like to hear from our good friend, Dr. Miller, on this point.

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

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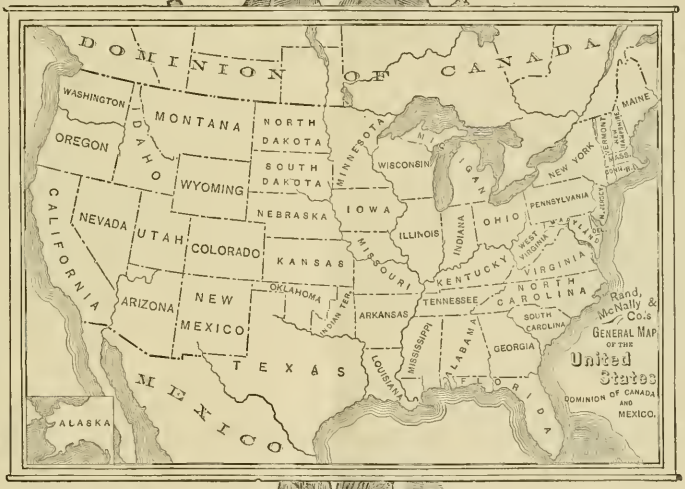

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GENERAL ITEMS

Better Report this Year.

I have a better report for the season of 1901 than for 1899 and 1900. The bees came through in very poor shape, short of stores and bees, half of the colonies with practically nothing; but they built up in June nicely, making up my loss in winter, and storing about 30 pounds of surplus honey, spring count; and all hives were well filled for winter with good honey, and nearly all colonies had young queens. C. H. CHITTENDEN.

Middlesex Co., Conn., Oct. 16.

Honey a Light Yield.

The season here was good until the drouth set in July 10, when the excessive hot weather cut the flow short. The dryness of the air has caused the honey to be of heavy body and fine quality. I started with 18 good colonies in the spring, increased to 24, and have taken off 550 pounds of comb honey—about 30 pounds to the colony. It is a rather light yield, a little above an average with my neighbors. Bees are in good condition for winter.

JOHN CLINE.

Lafayette Co., Wis., Oct. 23.

Crop Not as Good as Expected.

The honey crop is not as good as was expected by the bee-keepers of this section. With a late, wet spring the bees did not swarm very early, and, therefore, were not ready to catch the first honey-flow. However, the basswood honey was a better crop than last season, at least in some parts of Pennsylvania. Buckwheat honey was almost a failure this season, there being very rainy weather at the time it was in bloom. I find a good sale for comb and extracted honey. Bees are in fine condition for winter.

W. H. HEIM.

Lycoming Co., Pa., Oct 14.

Poor Year for Honey.

This has been a very poor year for honey on account of the drouth, but I think most of the bees are well fixed for winter. I started with 3 colonies, spring count, and increased to 11, and got about 75 pounds of nice comb honey. Our spring honey-flow lasted only about two weeks, then came the drouth; but I think the fall flow will prove sufficient for wintering. W. H. ELLIS.

Calhoun Co., Iowa, Oct. 12.

Crop Nearly a Total Failure.

Through smelter smoke, drouth, and grasshoppers the bee-industry in this county, as a rule, has been nearly a total failure. I have 56 colonies at Pleasant Green, where they have hitherto always done well, but this season, owing to the grasshoppers eating the crops off bare to the ground, I have not taken off a pound of honey, and the bees are several hundred pounds lighter—perhaps 10 to 15 pounds to each colony less than they were last year.

No. 1 comb honey is worth $3.00 per case, and extracted is worth 6 to 7 cents a pound, according to quality. The Omaha report of Peycke Bros., in the American Bee Journal, is a burlesque as far as Utah is concerned.

E. S. LOVESY.

Salt Lake Co., Utah, Oct. 22.

The Honey Crop and Prices.

We note in the American Bee Journal of Sept. 12 some dealers quote Utah comb honey at 10 cents for No. 1, and 9 to 9½ cents for No. 2. This is a mistake. We have this season a quarter of a crop of what it was last

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year, and prices have been from $2.65 to $2.85 for cases of 24 sections, which means 13 to 13½ cents per pound.

Of extracted honey we have half a crop of what it was last year, and producers are holding firm at 6 cents. This, of course, is too high for present Eastern markets.

Knowing what we do about the crop condition of comb honey in the Western States, and what information we have gathered from the bee-papers, we consider comb honey good property this season.

VOGELER SEED & PRODUCE CO.
Salt Lake Co., Utah, Oct. 11.

Dark Combs and Color of Honey.

"Dark old combs give to honey a darker color. This is the experience of some—others say no. Why this difference of experience?" —Bee-Keepers' Review. May there not be a difference as to careful observation? Will not the length of time the honey is in the comb also make a difference in color? Fill a black comb with water, and immediately throw it out, and the water will be clear. Let it soak for a number of days and it will be like ink.—Gleanings in Bee-Culture.

"Reviewlets" from the Bee-Keepers' Review.

TOO MANY IRONS IN THE FIRE, is a bad condition of things. I saw it illustrated in several instances in my recent trip through Ontario. So many made excuses about the appearance of things, and of the way in which they were obliged to work, and of how they were behind, and always driven with work, all because they had so much to do; as one man said, he was "tired out all of the time." For instance, Mr. McEvoy has an apiary of about 100 colonies, several acres of berries, and is inspector of apiaries for Ontario. All need his attention at the same time, and he was free to acknowledge that had he turned his attention to bees, years ago, his financial success would have been many times greater. Those men who had bees alone, and a lot of them, were making the most money with far less worry.

A HIVING-BOX made from a cheese-box was one of the handy things that I found in the apiary of Jacob Alpaugh, of Ontario. Two staples on the side of the box are for slipping in the end of a long pole, whereby to raise the box up under the cluster on the limb of a tree. The bottom of the box is covered with muslin. The cover is also of muslin, but it is fastened at only one edge, opposite the side where the staples are, and can be drawn over the top of the box by means of two strings passing over the edge of the box and down the pole. When there is a swarm to get down, the box is put upon the pole, the cover slipped back, the box raised up under the cluster, and the limb given a sharp jar by means of the pole. This causes the bees to drop into the box, when the cover is quickly drawn over them by means of the string, making them close prisoners. The box, bees and all, may be slipped off the pole, and set to one side in the shade, where it may be left until the bee-keeper has leisure to

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Long-Tongued 3-Banded Italians

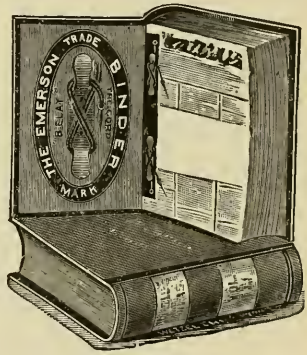
bred from stock whose tongues measured 25-100 inch. These are the red clover bustlers of America.

75c each, or 6 for $4.00. Safe arrival guaranteed.

FRED W. MUTH & CO.
Headquarters for Bee-Keepers' Supplies,
S.W. Cor. Front and Walnut Sts.
Catalog on application. CINCINNATI, O.

Please mention Bee Journal when writing.

The Emerson Binder



This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

PAGE

Prescription Free!

You will find it in our new catalog. It tells all about the remedy, and how to use it. Send for it.

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

Please mention Bee Journal when writing

$13 to Buffalo Pan-American and Return—$13,

via the Nickel Plate Road daily, with limit of 15 days; 20-day tickets at $16 for the round-trip; 5-day tickets at $6 for the round-trip on Tuesdays, Thursdays and Saturdays, the latter good only in coaches. Through service to New York and Boston and lowest available rates. For particulars and Pan-American folder of buildings and grounds, write John Y. Calahan, General Agent, 111 Adams Street, Chicago.

37—41A4t

BEE-KEEPERS' SUPPLIES

THE FINEST IN THE WORLD.

OUR NEW 1901 FIFTY-TWO PAGE CATALOG READY. Send for a copy. It is free.

G. B. LEWIS COMPANY, Watertown, Wis., U.S.A.

Special Agency, C. M. Scott & Co., 1004 East Washington Street, Indianapolis, Ind.

Excellent shipping facilities and very low freight rates for Southern and Eastern territories.

Please mention Bee Journal when writing.

25 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 25 cents a pound—CASH—for best yellow, upon its receipt, or 27 cents in trade. Impure wax not taken at any price. Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

Buffalo Pan-American Tickets

via the Nickel Plate Road, $13.00 for the round trip good 15 days; $16.00 for the round trip good 20 days. Three daily trains with vestibuled sleeping-cars. Meals in dining-cars, ranging in price from 35 cents to $1.00. Address John Y. Calahan, General Agent, 111 Adams St., Chicago. 38—41A4t

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.25 to

Prof. A. J. Cook, Claremont, Cal.,

FOR HIS

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

Please mention Bee Journal when writing.

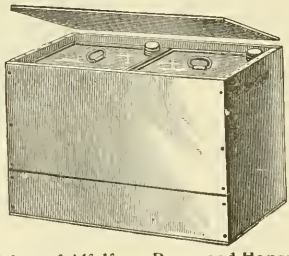
BEST

Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 8 cents per pound; four or more cans, 7½ cents per pound. **Basswood Honey**, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are boxed. This is all

ABSOLUTELY PURE HONEY

The finest of their kinds produced in this country.

Read Dr. Miller's Testimony on Alfalfa Honey:

I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more marked flavor, according to my taste. C. C. MILLER.

McHenry Co., Ill.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

hive them. It is well to have several boxes, and poles of different lengths.

CAUTIONARY LABELS seldom cut much figure with freight handlers. They must be very striking to attract attention. Mr. A. E. Hoshal, of Ontario, has certainly chosen a heading that will quite likely be read. Here is the label that he uses on packages of comb honey when he ships them:

DANGER!

☞ DON'T DROP. This Package Contains COMB HONEY, and it will be Broken if Dropped, Roughly Handled, or Moved in a Dray or Wagon Without Springs.

Kindly Lift the Crate by the Handles, and Set Down Carefully.

I suppose when the freight handlers read the heading they think they have got hold of dynamite or gunpowder, but when they read on and find it is only sweet and harmless honey, the question is, if they will not be disgusted at the ruse that has led them to read the label, and get back at the shipper by giving the package an extra tumble.

POLITENESS IN BUSINESS is a great factor. When visiting at Mr. F. A. Gemmill's, in Ontario, Mrs. Gemmill's mother, an old Scotch lady, was telling me how well a neighbor across the way was succeeding as a florist, while his predecessor had been compelled to sell out for lack of patronage. I expressed my surprise, and asked how it was that the first man had failed. "He hadna' the sense to speak gentle to the people," was the comprehensive reply. Then she went on to explain that he waited upon customers with a condescending air, as though he were bestowing a great favor. If he had more flowers than orders, or the flowers were beginning to fade, he would never give one to a neighbor, but would throw them away—even burying them in the ground that they might not be picked up. The man who now has charge of the business delights in giving to neighbors any flowers for which he has no sale. Such flowers are often sent to the hospital. These things become noised abroad, and beget a kind feeling for the giver.

Bee-keepers can do much to keep their customers by having the sense to "speak gentle" to them. Many an order is lost (and many a one secured) just from the character of the letter sent in reply to an inquiry. I don't believe in fulsome flattery, nor in a servile prostration of one's self at the feet of a customer, but there is a pleased politeness that lowers no one's self-respect, yet sends every one away a pleased customer.

KEEP MORE BEES.—For years bee-keepers have been asking *how to do things*, and the matter of manipulation, hiving, supering, extracting, wintering, etc., has been brought to a high degree of perfection. Specialists can better afford to turn their efforts in some other direction than that of petty details. Great success must be looked for in some radical change. As I bring before my mind man after man whom I have met on my Canadian trip, I ask myself, "Which ones have been the most successful?" Invariably the answer is forced upon me, "The ones that have the *most bees*." It is a simple thing, isn't it?

FOUNDATION is put into Heddon frames by Mr. Miller, of Ontario, in the same way that the Daisy puts starters into sections. There is this difference, however, that there is some difficulty with such a long strip, in getting it in straight and exactly in the center of the top-bar. To overcome this, the frames are first wired, and when the foundation is put in they are supported by a tilting framework, at a slight angle, so that the wires support the foundation and keep it from toppling over while the wax is cooling. If the foundation does not strike the frames exactly right, a straight edge is pressed against the foundation, forcing it into position before the wax sets. Afterwards the wire is imbedded. A stiff, upright wire is used in the

center of the frame to prevent any sagging of the top-bars. Mr. Miller likes a battery for imbedding the wires; the only objection being that it becomes weak and requires renewing so often. I think the little spur-wheel arrangement works well.

FINDING QUEENS without the tedious operation of looking over the combs one at a time, some sure, short-cut method would be very desirable. The nearest approach to this that I know of is one employed by A. E. Hoshal, of Ontario. He first removes the cover from the Heddon hive, puts on a break-joint honey-board, then a queen-excluding honey-board, and on top of that an empty super, or a box the same size as the top of the hives. The bees are then smoked at the entrance, which frightens and drives the queen into the upper case of the brood-chamber, which is now taken off, honey-boards, empty super and all, and set upon a frame-work supported upon legs. Smoke is then puffed up under combs, which soon sets the bees to running up through the honey-boards into the empty super on top. Of course the queen attempts to follow, and readily passes up through the break-joint honey-board, but farther progress is barred by the queen-excluder, and she is easily found between the two honey-boards. When the bees are in a single case of a brood-chamber, there is no necessity for even removing it from the bottom-board; simply remove the cover, put on the honey-boards and empty super, and apply the smoke at the entrance. A queen can often be found by simply removing the cover and honey-board and puffing a little smoke in at the entrance. It is astonishing how little smoke will send a queen up on top of the frames; where a little close watching and spryness on the part of the operator will enable him to pick her up before she slips back again.

CONVENTION NOTICES.

Chicago. — The executive committee of the Chicago Bee-Keepers' Association has ordered that the next meeting be held all day and evening, Dec. 5, 1901, at the Briggs House club-room. This is arranged on account of the low rates to be in force then for the International Live-Stock Exposition in Chicago at that time (Nov. 30 to Dec. 7), being one fare plus $2.00 for the round-trip This notice goes by mail to nearly 300 bee-keepers near Chicago, and should result in the largest attendance we have ever had. Dr. C. C. Miller and Mr. C. P. Dadant have promised to be present. Let all come.

HERMAN F. MOORE, Sec.
GEORGE W. YORK, Pres.

Colorado — The Colorado annual meeting promises to be a genuine success. The program has been made out for a number of weeks, and is almost ready for publication. It has come to be a privilege and an honor to read a paper before our Association, and so very few decline who are invited to write or speak for instruction. One paper is already in the hands of the secretary. On two or three nights a big magic lantern will illustrate talks by famous students of bees and the bee-industry. And then we are going to have an exhibition of the choicest honey in the United States (made in Colorado, you know), and wax, with bees enough to show "how the thing is done."

If you want to know more, or have forgotten the dates (Nov. 18, 19, 20), write to the undersigned, box 432, Denver, Colo.

D. W. WORKING, Sec.

The Cyphers Incubator Co.—October 1st the factory and home offices of the Cyphers Incubator Company were moved from Wayland to Buffalo, N. Y., where they have largely increased space and every modern facility for conducting their increasing business. We are pleased to inform our readers that this Company received the Gold Medal and highest award at the Pan-American Exposition. They have been liberal patronizers of our advertising columns for several years, and expect soon to begin the pushing of their business for next season. Look out for their advertisement, and if in need of anything in their line write them.

Please mention Bee Journal when writing advertisers.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white).....	$ .60	$1.00	$2.25	$4.00
Sweet Clover (yellow)....	.90	1.70	4.00	7.50
Alsike Clover	.90	1.70	3.75	7.00
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
144 & 146 Erie Street, · CHICAGO, ILL.

Wanted To Buy Honey
What have you to offer and at what price?
34Atf ED WILKINSON, Wilton, Wis.
Please mention Bee Journal when writing.

Wanted Fancy White Comb Honey in no-drip cases; also Extracted Honey. State price, delivered. We pay spot cash. FRED W. MUTH & Co., Front & Walnut Sts., Cincinnati, Ohio. Reference—German National Bank, Cincinnati.
40A5t Please mention the Bee Journal.

Wanted Comb and Extracted Honey!
State price, kind and quantity.
R. A. BURNETT & CO., 199 S. Water St., CHICAGO
33Atf Please mention the Bee Journal.

Wanted—Honey.
Car Lots or otherwise; will pay highest market price, spot cash. Address, stating quantity, quality, and price desired at your station. Will send man to receive when lot is large enough to justify. THOS. C. STANLEY & SON,
31Atf FAIRFIELD, ILL.
Please mention Bee Journal when writing.

Wanted Comb Honey and Beeswax. State price delivered in Cincinnati.
C. H. W. WEBER,
43Atf 2146-2148 Central Ave., CINCINNATI, O.

Send for circulars regarding the oldest and most improved and original Bingham Bee-Smoker. FOR 23 YEARS THE BEST ON EARTH.
25Atf T. F. BINGHAM, Farwell, Mich.

1901—Bee-Keepers' Supplies!
We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog.
M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

FREE FOR A MONTH ....
If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper published in the United States.

Wool Markets and Sheep
has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

$6.00 to Buffalo Pan-American and Return—$6.00,
via the Nickel Plate Road, Tuesdays, Thursdays and Saturdays, with limit of 5 days from date of sale, good in coaches only. 15-day tickets at $13.00 for the round-trip, and 20-day tickets at $16.00 for round-trip, good in sleeping-cars. Three through trains daily. For particulars and Pan-American folder of buildings and grounds, address John Y. Calahan, General Agent, 111 Adams St., Chicago. 39—41A4t

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Oct. 10.—There is a very good trade in No. 1 comb honey at 15c per pound; that which will not grade No. 1 or fancy sells at from 13@14c; some small lots of fancy have brought more than 15c; light amber selling at 12@13c; the dark honeys of various grades range at from 10@11c. Extracted sells fairly well at 5½@6½c for white, according to quality and flavor; white clover and basswood bringing 7c; light amber, 5¼@5½c; dark, 5@5¼c. Beeswax steady at 28c. R. A. BURNETT & CO.

CINCINNATI, Oct. 25.—The honey market is rather dull on account of the warm weather. Extracted sells only to manufacturers from 5@6c; better grades alfalfa water-white from 6@7c; white clover from 8@9c. Fancy white comb honey sells from 13½@15¢c.

C. H. W. WEBER.

ALBANY, N. Y., Oct. 25.—Honey in good demand now, as this is the most satisfactory time to sell. Grocerymen are stocking up and will buy lines, when late they only buy enough to piece out. Fancy white comb, 15@16c; mixed, 14@15c; buckwheat, 12@13c. Extracted, white, 6½@7½c; mixed, 6@6½c. H. R. WRIGHT.

OMAHA, Oct. 25.—New comb honey is arriving by express in small quantities from Iowa and Colorado, and selling at $3.50 per case in a retail way. California extracted honey is being offered carlots at 4½@4¾c per pound, f.o.b. California shipping-points, but we have not heard of any sales having been made thus far. The production of extracted honey seems to be quite large this year in Colorado, Utah and California. PEYCKE BROS.

NEW YORK, Oct. 18.—Comb honey is in good demand and finds ready sale at the following quotations: Fancy white, 15c per pound; No. 1 white, 13@14c; amber, 12c; buckwheat, 10@11c. Extracted rather quiet at 6@6¾c for white, and 5½@6¼c for amber. Beeswax rather quiet at 27@28c. HILDRETH & SEGELKEN.

BOSTON, Oct. 21.—There is a fairly good demand for stocks with ample supplies at the present writing. Fancy No. 1, in cartons, 15½@16c; A No. 1, in cartons, 15@15½c; No. 1, 15c; very little No. 2 is being received; glass-front cases will bring about ½c per pound less. Light California extracted, 7½@8c; Florida honey, 6½@7c. BLAKE, SCOTT & LEE.

DES MOINES, Oct. 25.—There is very little doing here in new crop of honey. Some small lots of near-by produced comb honey are on the market and selling in a retail way at $3.50 to $3.75 per case. We do not look for much trade in this line before Sept. 1. Our market does not consume a great deal of extracted honey.

PEYCKE BROS. & CHANEY.

DETROIT, Oct. 25.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.

M. H. HUNT & SON.

SAN FRANCISCO, Oct. 16.—White comb, 10@12 cents; amber, 7@9c; dark, 6@7 cents. Extracted, white, 5½@—; light amber, 4½@—; amber, 4@—.

Values are ruling steady, with no very heavy spot offerings and a fair inquiry, more especially for extracted. A sailing vessel, clearing the past week for England, took as part cargo 575 cases of extracted honey, and 453 cases extracted went by sail for New York.

Beeswax—Good to choice, light, 26@28c. No heavy quantities arriving, and stocks are given little or no opportunity to accumulate to any noteworthy extent. Values are without quotable change.

KANSAS CITY, Oct. 25.—Up to the present time only small lots of new comb honey have been on the market, and these met with ready sale on the basis of 15@16c per pound for fancy white. For next week heavier receipts are expected and quotations are issued at $3.10@$3.25 per case for large lots, which would be equal to about 14@14½c; the demand being quite brisk, a firm market is anticipated. Inquiries for extracted are a little more numerous, but large buyers still seem to have their ideas too low. In a small way 5½@6c is quotable.

PEYCKE BROS.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,
330 Market Street, · SAN FRANCISCO, CAL

We have a Large Stock on hand and can ship promptly.

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OR ANYTHING YOU WANTIN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

Please mention Bee Journal when writing.

River Forest Apiaries!

FILL ALL ORDERS

By Return Mail.

Italian Queens Warranted

Untested, 75 cts.; Tested, $1.00: Select Tested, $1.50. Half dozen or larger lots as may be agreed on. Address,

RIVER FOREST APIARIES,
RIVER FOREST, Oak Park Post-Office,
30Atf Cook Co., ILL.

Please mention Bee Journal when writing.

THE NICKEL PLATE ROAD

will sell tickets each Tuesday, Thursday and Saturday during October to Buffalo Pan-American Exposition and return, at $6.00, good in coaches, return limit 5 days from date of sale. Tickets with longer limit at slightly increased rates. Three through trains daily. Chicago Passenger Station, Van Buren St. and Pacific Avenue. City ticket office, 111 Adams St., Chicago.
36—41A4t

A New Bee-Keeper's Song—

"Buckwheat Cakes and Honey"

Words by EUGENE SECOR.
Music by GEORGE W. YORK.

This song was written specially for the Buffalo convention, and was sung there. It is written for organ or piano, as have been all the songs written for bee-keepers. Every home should have a copy of it, as well as a copy of

"THE HUM OF THE BEES in the APPLE-TREE BLOOM"

Written by
EUGENE SECOR and DR. C. C. MILLER.

PRICES—Either song will be mailed for 10 cents (stamps or silver), or both for only 15 cents. Or, for $1.00 *strictly in advance* payment of a year's subscription to the American Bee Journal, we will mail both of these songs free, *if asked for.*

GEORGE W. YORK & CO.
144 & 146 Erie St., CHICAGO, ILL.

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24th Year **Dadant's Foundation.** 24th Year

We guarantee satisfaction. ✲✲

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS. PATENT WEED-PROCESS SHEETING.

Why does it sell so well? ✲✲

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

Langstroth on the Honey-Bee—Revised,
The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

Please mention Bee Journal when writing.

Texas Bee-Keepers.

New Branch Office. We beg to announce the opening of a branch office and warehouse at 438 W. Houston St., San Antonio, Texas. Rates of transportation from Medina in less than car-load lots are high, and it takes a long time for a local shipment to reach Southern Texas points.

Low Freight and Quick Delivery. To secure these two necessary advantages—low freight and quick delivery—and to be better prepared to serve the interests of our Texas friends, is our reason for establishing this new branch office. No other point in Southern Texas is better adapted to serve as a distributing point than San Antonio. It has four great railroads—the Southern Pacific R. R. east and West—the International and Great Northern R. R. from Laredo up through San Antonio and Central Texas, the San Antonio and Arkansas Pass R. R., and San Antonio and Gulf R. R. It also has the American, Wells-Fargo and Pacific Express Companies.

San Antonio as a Shipping-point.

Our Managers. We have secured as managers Mr. Udo Toepperwein, formerly of Leon Springs, and Mr. A. Y. Walton, Jr., both of whom are well known to the bee-keepers of South and Central Texas. They are also thoroughly familiar with practical bee-keeping and all matters associated with it, and any orders sent to this branch will receive prompt, careful attention.

Our Goods. As usual our motto is to furnish the best goods of the most approved pattern. We do not undertake to compete in price with all manufacturers. Bee-keepers have learned that it does not pay to buy cheap supplies, for a saving of 10 cents on the first cost of a hive may be a loss of many times this amount by getting poorly made and ill-fitting material. Every year brings us many proofs that our policy of "the best goods" is a correct one.

Our Catalog. Very few changes in prices will be made in our new catalog, so do not delay your order, but send it at once. You will be allowed a refund if lower prices are made, and in case of higher prices ruling in the new catalog, if any, you will secure the benefit by ordering now. Catalog and estimates may be had by applying to the address given below.

Our Invitation. Whenever you visit San Antonio you are invited to call at our office and make it your headquarters. Here you will find a display of Apiarian Supplies not equaled elsewhere in Texas. You will also find on file the leading bee-journals to pass pleasantly your leisure time.

Spanish Catalog. Some of you may read Spanish, or have a bee-keeping friend who does. If so, call for our Spanish catalog. It's sent free.

FACTORY AND HOME OFFICE:
THE A. I. ROOT CO., Medina, Ohio.

BRANCH OFFICE:
THE A. I. ROOT CO., San Antonio, Texas,
438 WEST HOUSTON STREET,
TOEPPERWEIN & WALTON, Managers.

☞ GEORGE W. YORK & CO. 144 & 146 Erie Street, CHICAGO ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., NOVEMBER 7, 1901.

FORTY-FIRST YEAR
No. 45.

WEEKLY

TEXAS HORSEMINT—A PLANT THAT HAS LONGER FLOWER-TUBES THAN RED CLOVER.
(See page 706.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

144 & 146 Erie St., Chicago, Ill.

Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

EDITORIAL STAFF.

GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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MEMBERSHIP DUES, $1.00 a year.

☞ If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Secor, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

WE (this time the "we" includes Mrs. York) had a splendid visit last week, for a day and two nights, at Dr. C. C. Miller's, in McHenry Co., Ill. We expect to have more to say about it later. Dr. Miller is well, and enjoying life better than most young men who are on the other side of 70.

MR. GEO. W. RIKER, of Lucas Co., Iowa, writes us that he expects to be present at the meeting of the Chicago Bee-Keepers' Association, on Dec. 5. He will then be on his way to New York—his old home—where he commenced bee-keeping in 1868, six miles north of Auburn. Next spring he expects to go to Colorado with his 200 colonies of bees. Rev. Jasper—the colored preacher—said, "The sun do move." Surely, bee-keepers "do move," too. They are more and more going to locations where they can "keep more bees." Success to them all.

MR. J. W. FERREE is the foul-brood inspector for Los Angeles Co., Calif. "Rambler" has this to say about him, in Gleanings in Bee-Culture:

"Mr. Ferree is a genial bachelor, a member of Dr. Bresee's church; will go a long way to serve a friend; generous every day in the week; polite and condescending to the ladies; always shows an even temper; and the mantle of foul-brood inspector could not have fallen upon more worthy shoulders."

Mr. Ferree has inspected 148 apiaries, 8010 colonies; 284 foul-brood colonies. He estimates that there are 300 bee-keepers and 20,000 colonies in Los Angeles county. Mr. Ferree seems to be the right man in the right place.

THE APIARY OF J. M. PAXTON, of Brooks Co., Ga., is shown on page 711. He commenced bee-keeping in 1899, buying an apiary of 29 colonies of Italian and black bees. In May he bought the bees and honey crop of about 1000 sections of comb honey. He had but little or no experience in bee-keeping, but sent for the book, "A B C of Bee-Culture," and did fairly well the first year. The bees were kept about one-half mile from his home. He paid $150 cash for the bees and outfit, and sold about $120 worth of honey the first year. He moved the bees home the following winter, and lost five colonies, having 22, spring count. He increased them to 41, and sold $113.50 worth of honey that year, which was a very poor one for bees in that part of the country.

HORSEMINT—MONARDA PUNCTATA. — The engraving of this honey-plant, shown on the first page, is kindly loaned to us by Gleanings in Bee-Culture, from which periodical we also take the following paragraph:

"Horsemint begins to bloom in May, sometimes a little later, June, depending on the season, such as a very dry and a backward spring The honey is compared with that of the basswood of the North, on account of its peculiar strong flavor which it resembles; it is of light color; one of the best honey-plants of the South, and tremendous yields have been obtained. I have just gone out to procure some of the flowerets, and send some to you herewith. Perhaps you remember what you said about a chance for long tongues while taking the shot at the horsemint on our porch. I have been interested in this question, and can not see how short-tongued bees could ever get everything that is nectar out of those long tubes. What do you think about it? Red clover not alone for long tongues."

Editor Root took the picture while in the South, and also wrote the above paragraph there.

PEARS IN CALIFORNIA.—Mr. B. S. Taylor, of Riverside Co., Calif., writing us Sept. 16, said:

"I enclose a small picture that will give some idea of how pears grow in California. The branch was taken from a small tree growing in my front yard. I think they are the Bartlett, but I am not certain. It is one limb, and there were 67 of them in the two clusters at the time photographed, though about 20 had previously fallen off."

Surely, California is a wonderful fruit country. We think we never saw such clusters of fruit growing anywhere as are shown in the picture. It wouldn't take long to pick a few bushels of them when growing so thick. (See page 714.)

MR. JOHN H. MARTIN (Rambler), of California, writing us Oct. 26, said:

"I am packing up and going to move over into Cuba to sojourn there through the winter. By so doing I secure a continuous honey-yield all the year round, thus: Field No. 1, in southern California, from April until July; Field No. 2, in central California, from July until October; Field No. 3, in Cuba, from October until April."

Rambler ought to be the sweetest rambling man in all the world—continuously sweet.

But isn't it rather risky for him to go over into Cuba? Some of those chocolate-colored young ladies in that "Pearl of the Antilles" will be making "goo-goo eyes" at him, and then where will Rambler be?

And, just think, if a Cuban girl should be able to accomplish what no Californian belle has been able to do!

Rambler, you'd better come to Chicago.

THE THANKSGIVING NUMBER of the Ladies' Home Journal is replete with good fiction and interesting and novel features. It opens appropriately with an article which tells "Where the President's Turkey Comes From." Then there are delightful stories by Hezekiah Butterworth and Laura Spencer Porter, and a new love story called "Christine," by Frederick M. Smith. Cleveland Moffett has an interesting story about Ira D. Sankey, the great evangelist, and Edith King Swain recounts the famous ascents she has made in various parts of the world. Will Bradley's original designs for a house begin with the breakfast-room, and Wilson Eyre, Jr., presents plans for a country-house and a garden. Mr. Bok gives much good advice to young married couples in his editorial. Another most timely feature is, "Why Should a Young Man Support the Church!" by the Rev. Francis E. Clark. Many home-made Christmas gifts are shown, and the first of "The Journal's Amusing Puzzles" appears. The regular departments are exceptionally good, and the illustrations superb. By The Curtis Publishing Company, Philadelphia. One dollar a year; ten cents a copy.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., NOVEMBER 7, 1901. No. 45.

Editorial.

The Chicago Convention.—One of our correspondents, who evidently is interested in the next session of the Chicago Bee-Keepers' Association, writes us as follows:

"MR. EDITOR:—In the notice of the convention to be held in Chicago, Dec. 5, it is said that the railroad rate is 'one fare plus $2.00 for the round trip.' That is given as the reason for holding the convention at that time. But if it is a convention of Chicago bee-keepers, a rate of that kind would not be any benefit to them, nor indeed to any one living within less than 70 miles of the city. Is it to be understood that Chicago includes all the surrounding States?"

PLAIN BEE-KEEPER.

No, Chicago has not expanded to quite that extent. But there's nothing small about Chicago bee-keepers, and residence in Chicago is not essentially requisite to membership in their society. Indeed, at their previous meetings, bee-keepers from a considerable distance have generally taken a prominent part. The live-stock show will bring to Chicago quite a number who are more or less interested in bees, and the low railroad rates will, it is hoped, attract others. There is no reason why there should not be the same gathering of bee-keepers in Chicago Dec. 5 as were formerly gathered at the meetings of the Northwestern Association, so pleasantly remembered by many as among the most successful bee-conventions ever held.

Fastening Frames for Hauling may be accomplished by driving a nail partly in at each end of each top-bar, or by slipping wedges between the top-bars at each end. R. F. Holtermann gives, in Gleanings in Bee-Culture, a plan that may be better, as follows:

A separator cut into four pieces will do. Lay this across the ends of the frames and drive a small tack through this into the bar, and they will not only keep from moving sidewise, but the piece across will prevent the frame from swinging at the bottom.

Glucose-Feeding.—A remark in "The Afterthought" calls forth the following:

MR. EDITOR:—On page 681, Mr. E. E. Hasty, referring to an editorial on page 579, says: "It is somewhat in the line of news to be told that one *can* feed a ton of glucose to his bees." Does that mean that it is news that bees will take so large an amount, or that they will take glucose at all?

SUBSCRIBER.

It is hardly news that bees will take glucose at all—sometimes. They are not likely to feed upon it voraciously when good, honest nectar is within easy reach. Whether under any circumstances a very large amount could be fed at one time may be questioned. The editorial does not distinctly say what our sharp-eyed "afterthinker" seems to understand it to say, namely: "that one *can* feed a ton of glucose to his bees. It says that a certain bee-keeper *tried* to feed that amount. That does not say whether the whole of that amount was taken by the bees. Even if that amount was all taken, it would not necessarily be such a very large amount for each colony, when it is noted that the colonies were numbered "by the hundreds."

Glucose as bee-food is reported in Le Progres Apicole as producing diarrhea in some cases and constipation in other cases. Some across the Atlantic report no inconvenience to the bees from its use, while others report heavy losses by death where glucose has been fed. These discrepancies are accounted for by the inconstancy of the product, some samples being pure, or nearly so, while many others contain free sulphuric and hydrochloric acids, etc., and often traces of arsenic.

The safest thing for bee-keepers to do with glucose is to let it entirely alone. "Touch not, taste not, handle not," is good advice.

Price of Honey receives further attention in Gleanings in Bee-Culture, without, however, materially adding new light; at least there seems no reason to change the view heretofore given in these columns, and it may be well to repeat that one will not be likely to go far astray if one closes promptly with any offers made at last year's prices. A note from Dr. Miller has some bearing on the subject. He says:

"I'm sorry to say I had not time enough to call on you either on my way to Jacksonville or on my return. I did, however, make a pop call on R. A. Burnett in passing. He promptly introduced the subject of prices on honey. I had considered his theory that rumors of a big crop helped to increase sales without lowering prices, and thought it utterly untenable. I do not know that I have entirely changed my views, but I must confess that after hearing him give cases right out of his experience that seemed to support his theory, I don't feel so sure of my ground as I did. It seems, however, that in the long run the greatest good to the greatest number ought to be secured by having 'the truth, the whole truth, and nothing but the truth.'"

"The Life of the Bee;" by Maurice Maeterlinck, translated by Alfred Sutro, is a unique work. It is not intended to supplant or to supplement any of the text-books as a text-book. The author says: "It is not my intention to write a treatise on apiculture or on practical bee-keeping." The man who has mastered the contents of one of our excellent text-books will learn nothing new from this work. But he will find the every-day facts about bees, with which he is already familiar, painted in such exquisite fashion that they will seem almost new to him.

The book contains 427 pages, with an undue amount of white paper, for the page measures 7½ by 5 inches, while the printed portion is only 4½ by 2⅞.

One wonders at such spelling as "labour," "favour," "savour," and "waggon" in a book fresh from the press, and still more to find "swarm" used for "colony," and "hive" with the same meaning. But these are minor matters, and we must remember that the book is a translation.

The author says: "I shall state nothing, therefore, that I have not verified myself, or that is not so fully accepted in the text-books as to render further verification superfluous. My facts shall be as accurate as though they appeared in a practical manual or scientific monograph." Yet the practical bee-keeper will hardly forbear some doubt as to the accuracy of some of the supposed facts. Dzierzon's hive, "still very imperfect, received masterly improvement at the hands of Langstroth;" when, as a matter of fact, Langstroth completed his invention before ever hearing of Dzierzon's hive, and no after-improvement was made. (Page 15.)

Our author will delight the heart of the Rev. W. F. Clarke, when he teaches that the bees "ensure the preservation of the honey by letting a drop of formic acid fall in from the end of their sting." (Page 43.)

Sixty or seventy thousand as the number of bees in an average swarm will stretch the credulity of the average bee-keeper, to say nothing of our good friend, the editor of Gleanings in Bee-Culture. (Page 46.)

In speaking of preparation for swarming, the author says: "The bee-keeper has only to destroy in their cells the young queens that still are inert, and, at the same time, if nymphs and larvæ abound, to enlarge the store-houses and dormitories of the nation, for this unprofitable tumult instantaneously to subside, for work to be at once resumed, and the flowers revisited; while the old queen, who now is essential again, with no successor to hope for, or perhaps to fear, will renounce this year her desire for the light of the sun." (Page 56.) Beautiful as is the language in that sentence, and much as the practical bee-keeper would like to believe it, he will hardly believe it a general rule that when preparations for swarming are made, all he has to do is to destroy queen-cells and give more room to secure the abandonment of all further thought of swarming for the season.

Do swarming bees carry with them "a certain amount of propolis," as stated on page

584 G. M. Doolittle must change his practice if he believes the teaching on page 87, that the workers accompanying a queen sent by mail should be "selected as far as possible from among the oldest bees in the hive." On page 100, we are told the workers will never sting a queen. The bees of an issuing swarm "have abandoned not only the enormous treasure of pollen and propolis they had gathered together, but also more than 120 pounds of honey." (Page 132.)

After a swarm is sufficiently settled, the queen begins to lay. "From this moment up to the first frosts of autumn, she does not cease laying; she lays while she is being fed, and even in her sleep, if indeed she sleeps at all, she still lays." (Page 215.) When a young bee has gnawed open its cell, "the nurses at once come running; they help the young bee to emerge from her prison, they clean her and brush her, and at the tip of their tongue present the first honey of the new life." (Page 236.) Other errors can be found for the seeking.

Beauties can also be found, and with less seeking. In fact, they abound. Take a passage, selected almost at random, from page 234. A swarm has issued, and the old home seems deserted:

"And for all that the moment may appear gloomy, hope abounds wherever the eye may turn. We might be in one of the castles of German legend, whose walls are composed of myriad phials containing the souls of men about to be born. For we are in the abode of life that goes before life. On all sides, asleep in their closely sealed cradles, in this infinite superposition of marvellous six-sided cells, lie thousands of nymphs, whiter than milk, who, with folded arms and head bent forward, await the hour of awakening. In their uniform tombs, that, isolated, become nearly transparent, they seem almost like hoary gnomes, lost in deep thought, or legions of virgins whom the folds of the shroud have contorted, who are buried in hexagonal prisms that some inflexible geometrician has multiplied to the verge of delirium."

A considerable portion of the book is taken up with philosophizing about things remotely connected with bee-keeping, if connected at all, many successive pages having no reference to bees, and the philosophy is by no means of the most optimistic character. The last 60 pages are occupied with a plea for evolution, the whole 60 pages being to the man who seeks practical instruction about bees an utter void. As arguments to show progress in the development of bees is cited, the fact that flour will be used in place of pollen, cement in place of propolis, and the fact (?) that black bees transported to California, where summer is perpetual, after one or two years "will cease to make provision for the winter?"

But when the author confines himself to bee-talk, his work is commendable in the extreme for its exquisite beauty. If the publishers were to cut out perhaps a third of the book, giving only the part relating directly to bees, it would no doubt be more relished by bee-keepers in general.

The book is published by Dodd, Mead & Co., 372 Fifth Ave., New York, N. Y. Price $1.40, postpaid. It can be ordered from the office of the American Bee Journal.

Green were the leaves at sunset;
To-day they're scar and red;
Like men they play their proper part,
Then fall to earthy bed.
—Gleanings in Bee-Culture.

The Buffalo Convention.

Report of the Proceedings of the Thirty-Second Annual Convention of the National Bee-Keepers' Association, held at Buffalo, New York, Sept. 10, 11 and 12, 1901.

(Continued from page 694.)

Response by Dr. C. C. Miller.

Just a little while ago Pres. Root said to me that he wanted me to say a few words in response to Dr. Smith's address of welcome, and my heart sank. I said that I didn't know that I could put on dignity enough for that; but when I found that I was to respond to plain, unadulterated Smith, it made the task easier, and I must say that there has come to me something of a surprise. If there is one thing above others that I don't want to see the time taken up with in a convention of bee-keepers it is an address of welcome and the response thereto; and in trying to make a response the thought generally will be, now what shall be said different from what has already been said? In what has been said today there has been an intellectual word of welcome, recognizing with a great deal of intelligence something as to what we are trying to do for the world, so that I do really feel that we are welcome. We are welcome to this room, which is something that we are really receiving, something of real value, and the word that has been spoken of encouragement as to our work has been something that is of value, and I do hope that fruits may grow from it.

Now, if you please, allow me to turn the tables just for a moment and speak a word of welcome—let *me* make an address of welcome. We do welcome such words from such men; we do welcome a feeling of recognition, of intelligent appreciation, and I want to say, as a citizen of the United States, a word that I have said in private, that we welcome our brethren from across the line. I don't know whether the Canadian brethren know how kindly we feel toward them. I trust that the feeling of brotherly affection that these words of welcome that our plain friend Smith has spoken to us will make us feel this stronger than we ever have felt it before; and that in the moving of a kind Providence the good work that may be done will be a pleasant thing for us to remember all the remaining days of our lives.

The convention was then favored with a song by Miss Ethel Acklin, of Minnesota, entitled, "My First Music Lesson."

Mr. N. D. West, one of the inspectors of black brood and foul brood, of the State of New York, then read a paper on the subject, as follows:

Black Brood, Foul Brood, and Bee Inspection in New York.

The bee-keepers in several counties of eastern New York have had a hard fight with a new contagious bee-disease. Dr. Howard, of Fort Worth, Tex., has made many examinations of diseased brood sent to him by myself from different apiaries. Dr. Howard said, the disease being new and differing from the old time foul brood, he would, for convenience, call it "Black Brood." It is very similar to foul brood, which we have known for years, and the treatment for its cure is about the same, but it does not yield so kindly to treatment, and it spreads more rapidly.

Wtih us the black brood started at Sloansville, in the northern part of Schoharie County, some six or seven years ago. Many whole apiaries died, and the disease kept spreading on and on until it had reached other counties, and it seemed as if all bees *must die*. The disease spread rapidly, and ruined all of the surrounding apiaries for many miles. It was known as "foul brood," and surely it was a *foul* brood.

Finally, Charles A. Wieting, Commissioner of Agriculture of the State of New York, appointed Mr. Frank Boomhower as his agent for bee-inspection, to exterminate the disease in Schoharie county.

Mr. Boomhower went to work and inspected apiaries, and he caused a great many colonies to be burned, hives, honey, bee-stands, etc., wherever he could find the first trace of the disease. The apiarists became more and more alarmed and they were dissatisfied with the inspection which caused so much destruction to their bees and bee-fixtures that many of them would claim that their very best colonies were unnecessarily destroyed by fire. Many apiarists who knew they had diseased brood would not admit it, and they considered the bee-inspector an enemy who delighted in destroying their bees because the law gave him the opportunity to do so.

Quite late in the fall Mr. Boomhower was laid off from his work as bee-inspector. In 1899 the bee-law was amended so it gives the apiarist a chance to cure his own bees, and if he is successful the bees will not be destroyed. Commissioner Wieting has since appointed four agents as bee-inspectors for the State of New York. These agents are inspecting apiaries and are instructing the bee-keepers as best they can how to treat their apiaries if they have diseased colonies, only destroying those colonies that are weak. If their owners will treat them properly, and do all they can to prevent the further spread of the disease, according to instructions given by the agent, the diseased colonies are not destroyed.

This diseased territory, having Sloansville for its center, is about 65 miles east and west, and about 45 miles north and south. Many apiarists have

so learned to treat and handle their diseased colonies that our apiaries are improving. The prospects are better. Bee-keepers in the midst of the diseased territory are, many of them, very much encouraged. The Italian bees do not get diseased as quickly as do the black bees, and they stand it better when they do get diseased.

Diseased colonies of Italians, when very strong, and having a good, young queen, and the honey season is favorable, the disease does sometimes disappear of itself, but this is seldom. But the season has much to do with the progress and curing of the disease.

I find that bee-keepers have been much more successful in treating their bees and effecting a cure this year than ever before, on the territory where I have been working. Bee-keepers should not allow any colony to become weak and die or get robbed on their summer stand. All colonies should be kept strong during the summer, and in the spring and fall seasons the apiaries should be looked over, and all weak colonies removed from the apiary where disease exists.

Colonies treated for black brood, by shaking the bees into new hives (McEvoy method) should have plenty of young bees, and there should be plenty of honey in the field, or the bees should be fed with a syrup or good honey for some time after treatment. There is something peculiar about black brood; it does not show much with the first brood in the spring, but it will show more and more from May 1 to June 15. If the honey-flow is good after July 10 the disease in many strong colonies will begin to disappear, and by Aug. 1 will not show diseased brood, but often have a good, full brood of hatching bees, while other colonies go from bad to worse; these should be destroyed. Many apiarists have been studying various ways and means to bring about the best possible results and they are now very anxious to have the bee-inspector come and see their results, and have him instruct them and inform them of any new methods of treatment and the results in the hands of others.

I have faith to believe that we will have better times. Today the bees at Sloansville and Central Bridge, where the disease first started and was worst, the apiarists now have their bees nearly all cured, so the disease does not show very much at present, but it will break out some again in the spring. But those who are practical will take care of it. They get a very good crop of white honey, but not over half a crop of buckwheat honey.

The following is a report from the Department of Agriculture:

"Commissioner Wieting, of the State Department of Agriculture, under the provisions of Chapter 223 of the laws of 1899, appointed four agents to carry out the work of inspection of bees. Up to the present time the work has been mostly confined to a few counties where the diseases have been the most injurious to this great industry. The agents of this department are all experts in bee-culture, and have done a great amount of good work among the owners of apiaries, giving instruction on the subject, and especially suggesting remedies for the diseases. The Commissioner has had a bulletin prepared on the "Black-Foul-Brood Among Bees," and will send copies to applicants. A compilation of the reports of the agents since the work began on the first of May to the 21st of July, 1900, shows as follows:

Number of Apiaries visited	633
Number of Colonies examined	14,763
Number of Colonies diseased	4,689
Number of Colonies condemned	2,604
Number of Colonies destroyed	214

"The colonies destroyed were so badly diseased that no treatment could save them, and those condemned were simply set aside for treatment.

"The Commissioner will be pleased to receive letters from those in this State who have bees, and he is anxious to do anything in his power to increase the products of apiaries."

The names and addresses of the four New York State Inspectors of Apiaries are as follows:

M. Stevens, Pennellville, N. Y., for Oswego County.
Charles Stewart, Sammonsville, N. Y., for Fulton County.
W. D. Wright, Altamont, N. Y., for Albany County.
N. D. West, Middleburgh, N. Y., for Schoharie County.

All of these are anxious to do all they can to exterminate bee diseases and advance prosperity to the bee-keeping fraternity. N. D. WEST.

Pres. Root—This matter of black brood is before you. Perhaps before we go on to the general discussion we should hear from Mr. Stewart, one of the inspectors.

Charles Stewart, of New York—I don't know as I have anything to add to what Mr. West has said, except that we find throughout the locality where black brood is at its worst that it is a case of the survival of the fittest. As he said, the yellow race of bees is in much better condition than the blacks or the Carniolans. Then, too, it is a survival of the fittest among bee-keepers. Those who were negligent or careless have lost nearly all their bees, especially those who have black bees, while those who have the Italians, or even those who have the blacks, and have watched them carefully, have reaped a very nice profit during the past season, and their bees are in fine condition, also. I think the other inspectors will agree with me that the disease has not spread as it has formerly, owing to our work about April 1st, and our going about and cutting off all colonies that were weak, seeing that they were destroyed and put out of the way, and no robbing took place last spring, the result being that black brood has spread in my section but very little during the past season, and all who are practical bee-men are greatly encouraged and feel that they now have it under control, so much so that many talk of buying bees again and going back into the business.

Pres. Root—It is very gratifying to know that this disease is now being got under control, and I believe is now under control. A question I would like to ask is this: Do you have any difficulty in distinguishing black brood from foul brood, or is there a difference? and, if so, what is the difference between the two diseases?

Mr. Stewart—There is a difference, you will notice, particularly in the stage in which the brood dies. In the late autumn, foul brood—a large percentage of it—died after it was capped and was usually ropy or stringy. I am speaking now of foul brood. Black brood lacks that ropiness, and it dies before it is capped, the greater part of it, not much dying after it is capped. Occasionally you will find a combination of the two diseases, black and foul brood, or, again, a combination of black brood and pickled brood, and so we have sometimes a confusion of diseases, but the main difference between black brood and foul brood is the time at which the larva dies, and its ropiness; also that the black brood is much more contagious than the old-time foul brood. We sometimes find a place where they have had foul brood for five or six years, and, perhaps, it has not spread to adjoining apiaries; whereas, if it had been black brood, it would have spread over a whole county, showing that the black brood is much more contagious than the foul brood.

Pres. Root—Is it necessary to disinfect the hives in the case of black brood?

Mr. Stewart—We always advocate that, using corrosive sublimate or napthaline, or something of that character, but it is possible to get rid of it by simply shaking them once on starters in the same hives, and they are healthy up to date; but this, perhaps, is not a wise thing to advocate among bee-keepers, because some of them are a little careless and they would not be successful, and we would be censured for it, so we advocate shaking twice and also disinfecting the hives. We think it is safer to be over-careful than not to be careful enough.

Edwin B. Tyrrell, of Michigan—Does the black brood spread in the same manner as the foul brood?

Mr. Stewart—It is spread by the honey being robbed from one colony by another, but sometimes it is spread we hardly know how. I have had an instance called to my attention in a locality where the bees were all healthy, you might say, and found only one or two cases; and within a short time a man that had a large apiary found combs of honey near him that somebody had thrown out for the purpose of infecting his bees. You may have an enemy, or someone you have never injured in any way, yet he feels that he has lost his own bees and is a little envious of you because yours are in a flourishing condition, and, occasionally, it spreads in that way. It is something I dislike to mention, but it has been brought out and such a case will occasionally occur. But, it is spread in some other way, because it will spread quite a distance, two or three miles, when you can discover no robbing. Possibly it is by drones. Possibly the germs may be carried by the bees to the flowers and other bees get those germs from the pollen. What we know we are able to tell you, but what we don't know, that is something no one can tell.

A Member—I would like to know something about the treatment.

Mr. Stewart—Our most successful treatment has been shaking them on to comb foundation, and in about four days taking those combs away and shaking the bees on to another set of starters, and by disinfecting the hive, or using another hive. The bees from that time on will be healthy unless they reach some infected honey.

F. J. Miller—Do I understand that it is simply the McEvoy treatment for foul brood?

Mr. Stewart—With the difference that we recommend being on the safe side by disinfecting the hive by boiling or the use of some strong disinfectant.

Mr. Case—How can you manage to get the bees from the combs or the starters on which you first shake them, on to the foundation that you are going to leave them on, without their killing themselves with the honey that is fed?

Mr. Stewart—That is a chance you have to take. Of course, it would, perhaps, be better to confine them in a box in the cellar until they have thoroughly used up the honey in their honey-sacs, and then put them on comb foundation. Of course, you will, occasionally, but the chance is small, have a colony infected by taking honey even a second time; that is why we use a second treatment, in order to do away with all the germs in the honey, and usually are successful, although once in a great while there may be an exceptional case; so, perhaps, it would be better to confine them in a box in the cellar for 48 hours, or something like that.

N. N. Betzinger, of New York—They usually retain the honey that they take with them 14 days before they let go of it.

Mr. Callbreath—What time of the year is best for treatment? Should the same treatment be given when they are gathering honey, as when they are not gathering honey?

Mr. Stewart—The better time is when they are gathering honey. In that case we recommend using something like formaldehide in the honey.

Mr. McEvoy—I think that Mr. Stewart and I could agree on most points, but speaking of putting the bees into the cellar for four days, it kind of unfits them for business; they become lean and poor and have to be built up by feeding afterwards to get them into good condition. The four days upon the starters, and after that the new foundation will answer every purpose. There is nothing like feeding the bees; give them plenty.

Mr. Stewart—Yes, I do.

Mr. West—There is one thing in regard to this black-brood business, and with the treatment, and the shaking the first and second time, that I think is a little different in some cases from what it is with the real, old-time foul brood. Our black brood, when shaken the first time and let remain four days, and then shake them again, and put them on foundation, I find in the hands of other people who are doing this work, that the bees are very reluctant about staying in their hives so many times, and swarm out and sometimes go to the woods, and if this is done in the swarming season, when bees are swarming, they may swarm with other colonies that have a young queen, notwithstanding that these bees may have their queen caged. Notwithstanding all this, when other swarms issue, it has a tendency to draw these bees out of the hives and they unite on the wing and mix with other bees and thereby spread the disease to other hives. Now, I prefer, with a good many men that haven't real experience, to put them into the cellar and continue to feed them for four or five days. And when I shake them on foundation and put them into the cellar for four or five days and feed them while they are there, I have had very good results this year; and if strange bees are put together, it improves the work, and I find, too, that the colony does better when treated in the swarming-time, if it is moved from the apiary some ten or twelve rods, out of the reach of the others. It is best, in my experience, to cure this disease in the swarming season, or when you have a continuous flow of honey, and if the colony, after shaking, has been carried off some ten or twelve rods from the rest of the apiary, when swarms from the apiary come out, the others are less inclined to leave the hive, and, if they do, and the queen is caged or clipped, they return without spreading the disease.

Mr. McEvoy—I agree with Mr. West on that point, when he puts them in the cellar he feeds them.

THE USE OF COMB FOUNDATION.

"Is the use of foundation profitable in the production of comb and extracted honey?"

F. Greiner, of New York—I would say that it is undoubtedly profitable to use comb foundation, in the production of comb honey as well as extracted honey, and the question in my mind is, Do we produce as good an article of comb honey with comb foundation as we could without? That is the only point why I hesitate sometimes in advocating and using comb foundation in sections. I have used the very best comb foundation that could be procured; and yet I will say that I did not use the flat-bottom foundation—there might be a difference in favor of that. I have used the regular comb foundation as it is manufactured by other manufacturers. I can detect the comb foundation in almost all my comb honey, and my wife very seriously objects to my using comb honey or bringing such in the house for use, on account of this comb foundation. Otherwise, I should say it was profitable to use. Of course, in the production of extracted honey, if you don't have the combs there is no other way. If you have not the combs, the way to do is to use comb foundation.

Dr. Mason—Wouldn't the bees build it if they didn't have any?

Mr. Greiner—They would, but it would not be as profitable, and we want as tough comb as possible. In the brood-chamber certainly it is profitable in more than one way to use comb foundation. You get splendid combs, and a good deal quicker, and the drones are excluded almost entirely; but there is no other way that we can prohibit the rearing of drones than by this method.

Dr. Miller—I don't doubt at all the importance of the question. I do doubt the advisability of taking much time in discussing the reasons for the differences of opinion. It occurs to me that if we could have two or three intelligent questions asked and simply get opinions how many think so and so; and it occurs to me that if Mr. Hutchinson, who has digested the whole matter pretty thoroughly, would put the different questions that are required, and ask us where we will put ourselves on record, I believe it would be of use. Simply get the number of those who think they want to use foundation, and so on.

Mr. Hutchinson—Is it profitable in working for extracted honey, to hive swarms upon full sheets of foundation in the brood-nest? How many would favor hiving swarms on full sheets of foundation in the brood-nest when working for extracted honey? Evidently, most of us use full sheets. How many would use full sheets for comb honey? How many would use starters? Is there any one here who would use starters in the supers only?

Mr. West—I would use starters, but I would make a half sheet of it by using it saw-tooth fashion.

Mr. Hutchinson—How many would fill their sections full of foundation? You see most of us would put in full sheets of foundation. Is there any one here that would allow the bees to build their surplus combs in producing extracted honey?

Mr. Wilcox—The foundation costs me nearly a dollar a hive, and by using a few sheets of foundation starters they will build a few combs, and it is more economical in the brood-chamber. I use old combs in the supers.

Mr. Betsinger—I voted for using full sheets of foundation in the sections. Now, I don't know anything more about it than before I voted. The question is *why* I use them.

Mr. West—We haven't got the time to tell why. We have got to take the expression in this way.

Mr. Hutchinson—I fill them full in my locality, because they can finish the combs so much quicker and take care of the harvest. I think if the honey-flow was slow it might be profitable to allow them to build combs in the sections, but when it comes in with a rush, and they can fill the super in three days, they haven't the time to build the combs and gather the honey, and for that reason it is profitable to use foundation, because they can get storage room quicker; but I have found it profitable not to use full sheets of foundation in the brood-nest when hiving swarms and working for comb honey, in my locality. I have taken the sections off the old hive and put them on the new, and have the same bees working in the sections again in 20 minutes, with all the enthusiasm of a new swarm, and all the honey that goes in must go up in those sections, and they will build brood-combs, and as fast as they build the queen will fill them with eggs, and I have gotten as nice honey as by allowing them to build their own surplus combs. But, as far as results are concerned in surplus honey, I can get more by allowing them to build their own combs in the brood-nest. I would confine a swarm to about five combs.

Mr. Abbott—As we seem to be establishing a precedent, I want to express my opinion about this voting business. It seems to me like school-boy play. I cannot see anything to gain by it, cannot see any instruction to be gotten out of it, and I cannot see any good in it—a lot of people holding up their hands that they would do this and that. A National bee-keepers' meeting, it seems to me, is to impart instruction and information at the same time, and to hear from these people who are not in the habit of talking. I want to hear Dr. Miller and we want to see him.

Dr. Miller—I think there are certain

things that we can get at a convention that we cannot get elsewhere, and this makes it worth while to come a long distance, and it is the men we don't see much of, it is the men whose writings we do not see much in the journals, that we want to hear from here. But there are certain things that sometimes have been discussed so thoroughly that we are not likely to get any new light upon them, but it is of very great importance to me to know something about what the bee-keepers in general do think about them. Now, if we were to have a long discussion about whether it is best to do this or that, and the reasons are given (and we have heard all those reasons before) there is more or less waste time in that. And it is worth while for me to know there are 37 who think so and so, and 13 others who think differently. Of course, an old man like Mr. Abbott doesn't want us children to be playing here, but it is not child's play when we know what is the weight of opinion upon that. Then we can go on and get ideas that we will not get elsewhere.

W. L. Coggshall—What is the question under discussion?

Dr. Mason — We want to know whether the use of foundation is profitable in the production of comb and extracted honey?

W. L. Coggshall—Surely, it is indispensable.

Dr. Mason—Would you use it in the brood-nest?

W. L. Coggshall—Most assuredly.

Dr. Mason—Would you use it in the sections?

W. L. Coggshall—Yes, sir, full sections.

A Member—At what cost?

W. L. Coggshall—No matter what it cost.

D. W. Heise, of Ontario—I think Mr. Coggshall has almost settled this question. We can discuss this matter day in and day out and at the end of all the time it would resolve itself into the hive question. We know it is profitable to use foundation, and we know it from our own experience, and I think every one in his locality and according to his honey-flow will experience for himself whether it is profitable, and an expression from this convention by a show of hands that they all think it is profitable, gives me encouragement to do it myself.

(Continued next week.)

Contributed Articles.

Difficulties in Breeding for Long-Tongued Bees.

BY C. P. DADANT.

THERE has been considerable discussion of this subject for some time past in all, or nearly all, the bee-papers. There was a time when I loved a hot debate, and would throw myself head first into the battle on the side which I thought right. But that time has gone, and, although I still love to have my say, I much prefer to say it when the folks are through and the matter seems very nearly settled one way or the other. Yet it is much pleasanter to discuss bee-culture now-a-days than it was in years gone by, when each man thought those who did not agree with him on any particular question on the natural history of the bee must have a special spite against him. Hot words and epithets in scientific discussions are becoming a thing of the past.

The question of long-tongued bees is not new. When the Italian bees were first imported into American apiaries, it was held by many that they could gather honey from the red clover, while the black bees could not. I remember an old neighbor who had bought Italian bees of us, when I was hardly yet a man, and came one day in great glee to tell us that his Italian bees were working on the second crop of red clover. "And," said he, "the black bees see them at work on it and try it, too, but they can't get anything out of it. Their tongue is not long enough." I went with him to see this wonderful performance, but it seemed to me as if both the Italians and the blacks were industriously at work and shared alike, for, although some bees seemed to fly about over the field without any result, others would stop long enough on a blossom to show that they harvested something. And this seemed to be quite uniformly the case with either race. And our old friend could hardly be relied upon for something very positive, as he was in the habit of readily believing what he earnestly desired. But, later on, I have seen, without doubt, many Italians at work in a field of red clover, while the blacks were totally absent. In that case there was either a difference in length of tongue or a difference in tastes and affinities. Yet the actual results in pounds of harvest could hardly be proven to the advantage of the red clover, for, even without red clover, we have always seen a better result with the Italian bees than with the black. But it can not be doubted that there is a perceptible tendency to longer tongues in the Italian race.

The discussion of the long-tongued bees will have the result of causing investigations in that direction, and breeding as much as possible from the bees showing the greatest disposition to harvest honey from flowers with long corollas, or from the breeds of bees producing the largest results. After all, is not this what we are seeking?

But, can we expect to get a set type, an invariable breed of long-tongued bees, readily? Can we make sure of a distinct race, in a word, upon which we may positively rely to harvest honey from red clover whenever the honey is in it? I think not. It seems to me that, handicapped as we are by the almost impossibility of controlling the selection of the male in the fertilization of queens, we cannot for a long time expect to duplicate our best breeders and produce an invariable race. But, aside from the difficulty due to this obstacle, we have also before us the tendency of all beings to return to the original type.

Those who have persistently worked for years—for a lifetime—to the change desired in breeds of horses, pigs, cows, chickens, and in fact in the improvement of any domestic animals, or plants, or trees, those men know how little can be accomplished in a single man's life. If you take a breed which has already well-marked traits in the direction you seek to follow, you can only hope to make a very slight improvement by years and years of persistent effort. Have any of my readers ever tried to produce a new kind of potatoes, or a new grape, by artificial fertilization? If they have they will remember how many worthless specimens they have brought forward, and how few good ones. Many of us have made such trials in the hope of producing something far ahead of our neighbor's stock, but how many disappointments?

So it must be with the bees, and worse, since we cannot control the reproduction as we control that of most of our domesticated animals.

But, nevertheless, it would be an error to discourage those who try, for they are certainly on the right road. It is not only by repeated trials and by selection, long-continued, constantly discarding the inferior subjects, and constantly keep-

APIARY OF J. M. PAXTON, OF BROOKS CO., GA.—(See page 706.)

ing the same aim in view, that we can hope to produce fixed traits in our bees. And it would be well if we *all tried*, as those who keep in the rear only retard the others that much. That we can succeed, sooner or later, is evident, if we consider what has been done in other lines. Compare the Norman horse with the broncho or the Shetland pony; compare the Jersey with the short-horn cow; compare the Berkshire hog with the wild boar; the Bantam chicken with the Cochin-China or with the game fowl; compare any of our domestic animals with some different breed raised for a different purpose, or with the original progenitor of the race whose match still roams about the wild woods, and you will soon come to the conclusion that we can, with domestication and artificial selection, succeed in producing bees that will be far ahead of our present stock; but let us remember that before we secure fixed results, we will have many days of trial and many returns to the original stock, for we are only at the initial stage of bee-domestication. Hancock Co., Ill.

An Experience with Black Brood in New York.

BY P. W. STAHLMAN.

SOME time ago I promised to report my experiments on black brood, the following being those of the past season. This is my third year with the disease. In the fall of 1900 I moved two colonies of black bees (apparently clean and free from any disease) from an infected apiary. Both were very successfully wintered out-of-doors, and the fore part April, 1901, the packing was removed and an examination made. Sealed brood in three combs was found in No. 1, and a few cells were rotten; No. 2 was found to contain some sealed brood also, but free from disease. The hives of the two colonies were about eight feet apart, and painted in two different colors to avoid any bees entering the wrong hive. Two weeks later another examination was made, and No. 1 contained a good many rotten larvæ, while No. 2 was yet clean and breeding rapidly at this time. No. 1 was taken from its stand and all the bees shaken out; as an experiment, the bees were kept in the cellar about six days and fed with boiled honey. While this was going on, I cut from the combs of the same hive five pieces of comb about six inches square, on an average, containing neither honey nor pollen, and fastened these pieces of comb in a new hive, contracted to about five frames, and then turned the bees onto these combs, only to find about two weeks later, the disease again in its first stage.

I now took what few bees were left (perhaps two quarts or more) and put them on starters of comb foundation, and contracted to three frames, leaving them in the same hive, just as it was, and using the same frames, and all was well. I thus fed this small colony boiled honey every evening, and the disease never appeared again. This was taking bees from their winter quarters to treat them at once. Today (Aug. 19) the swarm is a "dandy," and I have installed a famous Italian queen as a safeguard for next year.

No. 2 bred up to contain nearly six frames of brood, but when I put the last outside comb, full of honey, in the center of the hive, the whole thing was struck with the disease, and, of course, had to be treated. The bees were shaken off the combs in front of their hive, on a large newspaper, and as soon as they crawled into the empty hive the newspaper was burned. In all cases the shaking was done at nightfall. The colony was left to work at liberty for four days, and then, without smoke, the hive containing bees (which contained no frames) and what comb they had built, was quietly set on the ground and a clean hive containing starters, *a la* McEvoy, was placed on the old stand, and then the bees were suddenly jarred out of the box and were left to enter the prepared hive and go ahead.

All was well for about seven weeks, when, from some cause or other, the disease again began to appear. After a few days the colony, which was strong, was again treated in the same way, and today, after seven or eight weeks, all is clean and good. The combs were cut out and destroyed, brood, honey and all, and two tea-kettles of boiling water was poured over the frames and hive, giving it a thorough scalding, and, on July 16, No. 3 (being also a treated colony that a friend had given me, and which I had treated in the same manner) cast a swarm. This swarm was hived on these scalded frames, with starters, the same cover and bottom-board being used, and today all four colonies are healthy and populous, open for inspection to any one, as the season was especially good for experiments.

It has been a wet season, and not of the best for honey. My colonies, four in number, are now headed as follows: No. 1, a queen from Kentucky; No. 2, one of a California stock; No. 3, a daughter from the Kentucky queen, and No. 4, a Carniolan. By this I mean to keep them free from disease next year, and increase my colonies. It takes Italian bees to fight black brood. Black ones are "no good."

Albany Co., N. Y.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Wintering Bees on the Summer Stands.

I wish to ask about wintering bees on the summer stands. I have the "Langstroth on the Honey-Bee," but I can't find much about wintering bees on the summer stands in it. I am going to winter two colonies on the summer stands; they are eight feet apart and have plenty of stores; they are in eight-frame dovetailed hives and I have wintered them in the cellar two winters. How must I pack them and when? The winter here is usually cold, sometimes 30° below zero. Last year I put the bees into the cellar Nov. 26, and took them out Apr. 2.

The hives face south. What shall I pack with?

MINNESOTA.

ANSWER—You must have overlooked what is said in Langstroth, beginning at page 326, and especially pages 336 to 344. If you have always been successful in cellar-wintering, it is doubtful that you can do better outdoors. The packing should be done early enough so that they will not suffer from any very severe freezing. Langstroth recommends for packing material, chaff, straw, forest leaves, woolen rags, and corkdust. The last is probably the best, but it is not always easy to be obtained. Planer-shavings are quite popular, and are not generally difficult to get.

Introducing Queens.

A queen I ordered some weeks ago arrived in good condition. I introduced her according to directions, the colony being queenless one day. After 24 hours the bees had done nothing to the cage, the weather being rather cold; so I pulled off the card at the end. The following day, it being still colder, the queen was still in the cage, and almost frozen. I then took her out and dropped her among the bees. A few days ago I examined the hive but found no queen, eggs, nor unsealed brood. Was I at fault in my way of introducing, or how do you account for the disappearance of the queen?

OREGON.

ANSWER—Were you entirely certain about the disappearance of the queen? Many a time has an experienced bee-keeper looked in vain a long time without finding a queen, especially a queen that is not actively engaged in laying. Of course, you may now be sure, some weeks later, for if present she would be laying. Dropping an almost frozen queen among the bees was hardly the wisest thing. From what you say it would appear that the queen was more or less separate from the bees, otherwise she would not have been chilled. The result probably would have been different if you had put the cage right in the cluster of bees so that there would be no question as to warmth, and then at their leisure the bees would have liberated the queen.

Baked Sweet Potatoes for Bees—Finding Black Queens.

1. Are baked sweet potatoes good bee-food? They are almost entirely sugar and starch, and the bees eat great holes in them.

2. Is there any way of finding the queen in a colony of black bees besides shaking them all off the combs in front of the hive protected with a queen-excluder? I have hunted mine over a hundred times and never could find one.

3. Why are queens dearer in the spring than in the fall?

LOUISIANA.

ANSWERS—1. I don't know. I should suppose they might answer a very good purpose if consumed while bees are actively flying, but they might be bad for winter stores.

2. The usual way is to look over the combs till the queen is found, and I suppose that is the way you mean you have done a hundred times over. After you have looked over the combs two or three times without finding the queen, it is hardly worth while to continue. Close up till some future time, not sooner than half an hour, and you may then find her the first thing. Another way is to put the combs in pairs. Put two of them into an empty hive, the two close together but an inch from the wall of the hive. Put another pair at the other side of the hive. Dispose of the rest in the same way, using another empty hive, only leaving one pair in the hive on the stand. Now look at the first pair, lifting out the frame nearest you. If the queen is on either of these combs, you may be sure she is on the side next the other comb, so as to be out of sight as much as possible. As you lift out the comb glance over the side of the comb left in the hive, and if you do not see the queen on that comb look quickly at the comb in your hands on the side from you. If unsuccessful in your search through the different pairs, let them stand for a time, and you will find the bees showing signs of uneasiness when the queen is missed. The pair that has the queen will remain quiet, and your search will now be brought down to those two combs.

3. Like other commodities, the law of supply and demand affects the price of queens. Queens are plentier in the fall; it is easy to have them in nuclei, and it is not easy to winter them except in full colonies.

Queens Killed in Introducing—Saving Queenless Colonies.

1. About Sept. 5 I ordered half a dozen queens, but did not get them until the 28th. The breeder sent no directions for introducing, so I followed as closely as possible the directions in the "A B C of Bee Culture." I put in five queens, one being dead when received; 48 hours after I put them in I looked in and found a lot of queen-cells which caused me to feel uneasy, and I examined the front of the hives and found two dead queens. I think all the others were killed, as there were cells in each hive. Why was it they were all killed? The bees had a good lot of honey and were getting honey from asters.

2. What can I do at this season of the year to save the queenless bees? VIRGINIA.

ANSWERS—1. It is impossible to tell what may have caused the loss without more particulars, and it is not certain that full particulars would allow an answer to be given.

2. You can buy queens to introduce to the queenless colonies, and as they will have been queenless a considerable time they ought to accept queens readily. If, however, they have reared young queens already, they will make trouble. It is possible you have colonies with laying queens that are weak in bees, and it would be a profitable thing to strengthen them with these queenless bees.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

MONUMENT FOR THE BEE-FLY-ESCAPE IDEA.

But Mr. Alpaugh's adaptation of the bee-escape to keeping a room clear of flies—that seems to have gotten beyond theory to practical success. Who knows but we shall sometime vote him a monument for that? And he needn't *use* the monument for a good long spell yet, either.

MELTOSE, HONEY, TUBS, ETC.

Yes, and do you see that not only Dr. Strickland, of Tennessee, but also the Battle Creek Sanitarium, of Michigan, are pushing meltose as a substitute for honey? Well, "Every tub on its own bottom;" but the venders of the good old tub need hardly be expected to lead in singing hallelujahs to the poor new tub. Page 611.

CONDUCTIVITY OF HONEY.

Honey is *queer* about its conductivity. Perchance it is partly because of the speed with which both the absorption and exhalation of water from it goes on. If we try to cool warm honey, recently cooled air (practically sure to be damp) at once envelops the surface. Surface seizes the vapor, and in changing it from gaseous to liquid condition sets free the latent heat—practically manufactures heat. If we try to heat cold honey we are liable to find that a thin film at the surface has got very thin in the other sense of the term. This liquid water rapidly changes to vapor of water (providing we apply the heat to the surface) and so practically manufactures cold at a rapid rate. The amount of heat which an ounce of water vapor will change to the latent state, and so cause to disappear, is great almost beyond belief. And that may be in part the how and the why of it that it takes such an amazing spell to get cold combs fit to extract. Hang them far apart—up to the top of the room—and give them two days if you possibly can spare it. Another good way is to extract what you can while in a half-warm condition, warm them some more, and then extract again.

WATER AS A CONDUCTOR OF HEAT.

"Water, if kept from circulating, is as bad a conductor of heat as eider-down." That's a big sentence. Better we keep it on probation awhile before we swallow it whole. An ounce of water distributed in the chaff of a cushion is pretty effectively kept from circulating. Would it, or would it not, affect the cushion like mixing in an ounce of eider-down? I'll choose the down for my bees. But when it comes to honey, I'll admit without argument that honey is a poor conductor—and the lack of mobility in its particles helps it to be so, very likely. Page 613.

POSITION OF BEES IN WINTERING.

"Observer" does well to call our attention to the fact that wintering each individual bee in a four-inch cluster must furnish heat twice as fast as a bee in an eight-inch cluster. Also we have thought that spacing the combs a little further apart for winter was a help. I, for one, feel about ready to tumble to his argument that it is not a help, but a disadvantage. But the case of bees massed in a "Hill's device," with their backs up against a warm, dry cushion, and getting honey from below—"Observer" does not handle that case, I should say. Page 613.

BULK COMB HONEY VS. SECTION HONEY.

Mr. O. P. Hyde, bees do not create honey out of nothing. If your bees store twice as much bulk comb honey as of section honey it must follow that somehow or other, actual or potential, there is a waste of one-half by the section-storing bees. That's not the way bees do at my yard. Yet I'm not sure but *some strains of bees* will do just that when you try to get them to work in sections. Page 616.

CRABBEDNESS AND DYSPEPSIA.

"Zatso," Prof. Cook? *Does* crabbedness breed dyspepsia? The popular impression is that dyspepsia breeds crabbedness. Perhaps the bottom fact is that they mutually foster each other. Page 618.

SCREEN HIVE-TOP AS A ROBBER BOTHERER.

Take off the cover of the hive, and fasten on the screen top as if for moving. We had several excellent devices to bother robbers before, and this evidently adds another. Good plan to "have our quiver full of them"—and wit enough to select quickly the right one to shoot in sudden need. Page 621.

THE QUEEN AND LAYING OF DRONE-EGGS.

The sharpness of the queen's desire to have some drone-comb to lay in is alluded to by Mr. Atchley, on page 630. Probably many of us have noticed this. He thinks the queen finds it easier to lay drone-eggs. How about the probability of that, brethren? If not the precise fact, I think it at least a near approximation. May be supposed that a sort of nerve-exhaustion has been run up by the long laying of myriads of fecundated eggs, and that the laying of unfecundated eggs does not make so large a demand for nerve force, nor exactly the same kind of a demand. She is taking a rest not by quiesence, but by change of action. Even ye sapient editor may write, and write, and write, until it is a rest to saw dry hickory wood. Howsomever, it is also imaginable that the queen stops laying worker-eggs simply because there are no more spermatic particles ripe enough to use.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

KINDLY INFLUENCE OF FLOWERS AND BEES.

I want to thank Prof. A. J. Cook for the "Home Circle" in general, and in particular for what he said about flowers, on page 634. The ladies—wife and daughter—of this ranch are great lovers of flowers, and have about 40 plants of different varieties in the house; but I never thought flowers had any particular moral effect on the behavior of our farm dog—a thoroughbred shepherd (15 years old now), that has always been very strict about keeping the other animals about the farm out of mischief, and keeping all strays from intruding on the premises; but it is a fact that he never barks at people when they turn into our yard; on the contrary, he always goes out to meet them, wagging his tail, to strangers as well as friends, as much as to say, "That is right; come right in; you will find a welcome." He even allowed a thief to carry off a super of honey from my apiary one night a few years ago; but I don't want that trait of his to be known very widely.

Instead of giving flowers the credit of "begetting a more kindly, genial spirit," I have been inclined to come at it from the other way, that people who are naturally kind-hearted and genial, exerting themselves to cultivate those traits, are the ones who, most naturally, take to flowers. It doesn't matter which way you take it, the influence is good both ways.

But what about bee-keeping and the influence for good that the "busy bee" exerts over those who engage in that business? It may be a little on the order of "compulsory education," but it is certainly a great school in which to learn patience and self-control—elements very essential toward the possession of a "genial, kindly spirit." Who ever knew a bee-keeper and real lover of bees who lacked these traits? As a rule, I find them the most sociable people I meet; even though perfect strangers to each other, it does not take long to get acquainted when it is known that each is engaged in keeping bees. There seems to be that fraternal feeling existing between bee-keepers that does not obtain with people of almost any other calling

I got out my paper and pencil to make a report of my doings with the bees the past season, but my mind persisted in running off that track, all on account of that article of Prof. Cook's, consequently my report will have to wait.

Mitchell Co., Iowa. A. F. Foote.

INDIO, THE SUBMERGED.

There is a very curious thing about the soil of California. Dr. Hilgard—the distinguished scientist of our State University—puts it very graphically. He says that we have several farms, one under the other. He means that our soil is fertile away down. If we should bring a four foot soil to the top it would be immediately productive; or, if we would expose a soil four or five feet down, by removing the top soil to that depth, it would at once grow—if watered and cared for—a full crop of grain. This is why California is so immensely rich in its soil. It is an arid region and the soils have not been leeched of the valuable fertilizers.

Where I now live, illustrates this truth. When I came here I graded my lots. I cut down two feet or so at one place. I commenced removing the surface soil as I would have done in Michigan, moving it to one side, expecting to return it when I had the grade to my liking. A neighbor, seeing my work, queried as to my purpose. I explained, when he told me that I need not take that trouble; that the subsoil and sub-subsoil, etc., were equally fertile with the top soil. I acted on his suggestion, and, though I planted a part of my lots on this sub-subsoil, yet all my neighbors have wondered at the marvelous growth on my lots. A white clover lawn right on this undersoil took full shape, vigor and beauty in three months. Tacomas, two years from planting, cover the whole front to the very roof, and are the admiration of passers-by. Thus, an apparent desert, if watered and cultivated, will show marvels of plant growth and vigor.

This is a good preface to a write-up of wonderful Indio. It is a little over 100 miles east of Los Angeles, and is 20 feet below the ocean level. Thus I spent two days recently beneath the horizon. Yet it is not in the extremest depths. Salton, a few miles farther east, is many feet lower. This was all, not long agone, covered with the "mad sea waves," and so, as the country around was raised, rich deposits, as well as those poisonous to the plant life, were left stranded on the desert sand. Lower Salton has since received the washings from Indio and the other higher areas, and so they are emptied of their salt and other alkalis, and are now immensely productive. Indeed, could we be sure that these higher acres were entirely cleansed of the noxious salts, we could buy land at Indio and know that we were getting a veritable garden. Indio is only a yearling. A year ago it was a bleak, arid desert, only known as an eating station on the "Espee" railroad. A little more than a year ago it was discovered to be an artesian valley. Wells were bored at slight expense, and a great flow of the most beautiful water was the result—wells costing but $300 or $400 gave, in some instances, 40 inches of water. The water is said to be of the very best quality.

The climate at Indio is, in summer, exceedingly warm—118° Fr. in the shade being not exceptional. Yet it is so dry that people do not mind it, and those suffering with pulmonary troubles find here a paradise. The microbes of tuberculosis find this place too hot, "throw up the sponge," and their victims rejoice in new-found health and vigor. Thus we

PEARS IN CALIFORNIA—(See page 706.)

see that Indio is a veritable green-house, a plant conservatory. Cantaloupes and water-melons grow here in a perfection that makes Rocky Ford, Colo., envious. Oh, but they are sweet and delicious! Melons just like the dry heat of Indio, and, if well watered, give a sugar content that makes them savory beyond compare. They come into market in June and July and thus antedate all other regions, except it may be Florida and when it comes to quality, Florida simply "is not in it." Last year—Indio's first year—she sent 2,300 carloads of this luscious pulp to market, mostly to Chicago. The crop sold for upwards of $25,000, and the cultivators received over $10,000. Single acres produced, it is stated, over $250 worth of these incomparable cantaloupes.

Here, as elsewhere, the traffic took all she dared to. But with reasonable traffic rates, we see that Indio has a great prospect ahead. Even with the present exorbitant express charges, the returns were most encouraging. If alkali does develop—and the Lower Salton region and the excellent water makes this danger improbable for much of the section—then Indio, so late a desert waste, will in the future be prized as a most valuable agricultural section. We had a two days' Institute in this yearling town. The people are bright, intelligent, and full of hope and enthusiasm, which latter we visitors caught in good measure.

I am glad to give this picture, as it makes us all in love with our grand country, more to marvel at its inexhaustible resources. If the veriest desert can blossom out with scores of carloads of cantaloupes, what may we expect when our

water systems are fully developed? Let us talk around the home tables, at the social meet, on the street corner, everywhere, in favor of more energetic action on the part of the government to conserve and develop our invaluable water-supply.

JOSEPH AND HIS BRETHREN.

Wasn't that Sunday-school lesson of yesterday a most interesting one? A divided home, a partial father, a proud boy, and envious brothers. No wonder all this gave birth to bitter rancor and hatred, and stayed not until murderous intent against a brother stole into those jealous hearts. Aren't we glad that we have so many homes where discord is not known? Isn't it good that Uncle Sam set his great, splendid foot on polygamy in our fair territories? Don't we all rejoice that the Christ spirit is so rife among us that partial fathers and mothers are rarely found? All the children in the most of our homes receive the best that is to be given by fond, loving parents. Can we give too much thought, study, or even money, if it tends to cement the love of brothers and sisters for each other? No doubt, Jacob's misdeeds and trials developed a character that has enriched the world. We believe that even Joseph, as true and chaste as he was, was ennobled by his great trials That trials and afflictions may have a most blessed ministry in the building up of a proud character, who can doubt?

MOCKING-BIRDS.

The mocking-bird is one of our delights. Closely related to thrush and cat-bird of the East, it out-sings either. Ours is the very same that charms the bird-lovers of the Carolinas. It sends out its sweetest carols morning, noon and night, and even at midnight it wakes to sing. Its heart is full as it watches its little fledglings. Five growing, promising little birdlings! No wonder the wondrous song makes musical the very sunshine, and gladdens all our hearts. I rejoice that my evergreens, down by the barn, are so vigorous. Soon they will harbor more of these lovely singers. A happy pair, in these October days, give us lovely music the entire day through.

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This indeed is an opportunity to get a superior Queen, and at the same time help swell the list of readers of the old American Bee Journal.

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GENERAL ITEMS

Fairly Good Season.

Bees did fairly well the past season, considering the drawbacks. White clover did not amount to anything. I had 40 colonies, spring count, and increased to 60, and have taken off, up to date, 2,084 pounds of honey, 1,700 of which is comb. I have sold most of this from my honey-room, at 12 and 15 cents per pound. I kept further increase back by caging the queen in the parent colony. After 9 days I destroyed all cells, and then released the queen. Honey is what I am after, not bees. SILAS JOHNSON.

Marshall Co., W. Va., Oct. 21.

Purity in Queens.

I saw an answer to my article on page 520 as to the purity of drones. Mr. Hasty, on page 617, does not understand me. I said that I did not believe that a queen that would produce black and golden droues was pure, and he goes on to say that wild birds are pure, yet the male, in many cases, is brilliant in color, while the female is plain looking. But suppose we take lots of our White Leghorn chickens that are pure, and we will then produce white chickens still. What I meant was that our bees will, if pure, produce either golden or black drones, and not two kinds from the same mother. I meant that if our queens and bees are three-banded, then our drones should be one color. I am not after three-banded queens, but I wanted to know if it could be possible that they were pure.

R. C. ABERNATHY.

Fannin Co., Tex., Oct. 16.

Honey Crop Not Extra.

The honey crop has not been very extra here. I got 1½ tons from 43 colonies, spring count, only 500 pounds of this being comb honey. "The Home Circle" is very delightful reading. HERMAN AHLERS.

Clatsop Co., Oreg., Oct. 21.

Poorest Year in Seven.

This has been a very poor year for bees in this part of the country. Although reports have been good, I fear they have been made only to keep the price of honey down. I have 180 colonies, and had 12 swarms the past season. I have extracted once and got only 12 cases, and will not have half a crop this year.

I am in one of the best localities in the county. I have kept bees for seven years and this has been the poorest we have ever had.

I have taken the American Bee Journal for one year, and like it very much.

W. M. WILSON.

Tulare Co., Calif., Sept. 10.

Where Bumble-Bees Winter—Poor Season.

On page 108, I notice a letter from Thomas Wallace in regard to bumble-bees in winter. I suppose the majority of people think they go South, but I do not agree with them. Last spring I was grubbing stumps, when I found proof to the contrary. I found one nearly 14 inches below the surface of the ground. I caught it by the wings when it started to "se-se," like all bumble-bees, and in 15 minutes it flew away. I found them the same way the latter part of September. The first thing bumble-bees work on is the gooseberry, and I have not seen them fly until that bush is in bloom.

The hornets, also, winter between the bark of old, rotten trees, for I have found them there very late in the fall. They were weak, the same as the bumble-bees. I think they must winter here, the same as grasshoppers, snakes, toads, frogs, etc., which are never seen in winter. Last winter I found a snake which was covered with a few leaves, where I was chopping cord-wood. I cut it in two with

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the ax, but there was no life in it; but just as if you would cut a sausage in two. So I think the bumble-bees must winter here. If not, I think it would be quite a hop for the frogs, toads and grasshoppers. I have noticed several times, when in the timber on a warm day, that the grasshoppers, spiders, flies and other insects, could be seen flying and hopping around me: and I have seen them as early as March 2, before the frost was out of the ground.

I would like to know if any of the readers of the American Bee Journal can explain where the frogs and toads winter. I opine that they go deep enough into the ground so that the frost can't reach them.

I had poor luck with my bees last winter, as all froze to death. I now have three colonies in good condition, and am hoping for a better crop in 1902. 1900 was the poorest year for bees since 1894. It was too wet. The roads were not fit for a rabbit to cross, for I have seen more than one stuck in the mud. One of my calves, even, got stuck, and in trying to help it out I got stuck myself.

I receive the "old reliable" American Bee Journal every Thursday, and it is a welcome visitor. B. F. SCHMIDT.

Clayton Co., Iowa, Oct. 12.

Catching the Bee-Moth.

I saw in the Bee Journal an item from A. E. Stone, of Arkansas, about bee-moths. I set a lamp in a dish-pan of water; the lamp attracts the miller, which flutters about the lamp until it falls into the water. This pan and lamp are set in such a part of the house (with open door) so that the lamp, turned to a dim light, reflects a little towards the place where my bees are located, so that the light does not reflect to the front or entrance. It is surprising what a difference it makes if done at the first appearance of the moth in the spring. I. L. MILLER.

Wyandot Co., Ohio, Sept. 27.

Poor Season for Bees.

We had a very poor honey season the past summer. I got very little honey, and had to feed my whole apiary to bring them through the winter, as we had no fall flow. Being very busy cutting my corn and seeding my wheat crop, I neglected my bees when they needed attention, and lost half a dozen colonies. A great many colonies in this locality, I think, will starve this fall and the coming winter. L. A. HAMMOND.

Washington Co., Md., Oct. 14.

The Vetch as a Honey-Plant.

I read an article in the American Bee Journal about hairy vetch. I have raised both the winter and the spring vetch, and both kinds are very valuable plants for stock. But the spring vetch beats the hairy, for cattle and horses like it better, green or dry, and the bees are thicker on it if they have their choice of both. I have never seen a been on the *flowers* of the vetches. They always go on the stems, generally between the stem and leaf. They are after the sap. While the bees are very thick on the vetches, the hives do not gain in weight. It only keeps them busy, but rearing very little brood meanwhile. That is the experience I have had with vetches. I have two acres of them, and 60 colonies of bees. J. HILLER.

Pierce Co., Wash., Oct. 2.

Bee-Keeping and Poor Health.

My health being poor, I thought I would try bee-keeping, so Oct. 10, 1899, I bought five colonies in Baldwin hives. The size of hive 14½ by 17½, and 11 inches deep, inside measure. It is an odd size. In the spring of 1900 I heard of the American Bee Journal and sent for a copy. In it I saw bee-books advertised, and so got "A B C of Bee Culture." But I let the bees have their way. They did not swarm, and I got 211 pounds of comb honey from two of the colonies, and nothing from the rest. Last spring I still had five colonies, and the first of May I overhauled them. The two colonies that gave me the 211 pounds last year had each a nice yellow queen and a fine lot of brood. The other three were dark in color, and had no brood started; I think they were old bees. I took one of the yellow queens and three frames, and put them into another hive. I soon had a fine lot of cells started in the hive I took the queen from. I killed the three dark queens, and the second day I gave these colonies a queen-cell each in queen-cages. In two days they had hatched, and I released them. In 15 days they were laying and I clipped them. The other colony I reared drones from, not allowing any other to rear them. This one gave me a nice swarm on May 26. It is now filling its third super of 24 4x5 sections. I have increased to 13 colonies by dividing, with the exception of the swarm spoken of. They are all doing nicely and storing in the supers. I think it has paid me well to take the American Bee Journal and to have the "A B C of Bee Culture," and I feel proud of the pocket-knife I got with the Journal last spring—it is all right. I want to say that any one keeping bees makes a mistake if he does not take some good bee-paper. JONAS WOLF.

Jackson Co., Mo., Sept. 2.

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The Beet vs. Cane Sugar Question.

This is one which seems quite unwilling to stay settled. The following editorial upon the subject is from Gleanings in Bee-Culture:

I have received a letter from Mr. Thomas Wm. Cowan (now sojourning in California), editor of the British Bee Journal, and who, through the columns of that paper, has recommended cane in preference to beet sugar for the feeding of bees. In a letter just received, he writes:

DEAR MR. ROOT:—I have just been staying at a fruit-cannery in the Santa Cruz Mountains where they use nothing but guaranteed cane sugar for canning purposes, and their experience with beet sugar is very similar to ours in England. It may be that the humid climate may have something to do with it; but it is quite certain that beet sugar is bad, not only for bees but also for preserving fruits in England. I suppose in the laboratory it is possible to get perfectly pure cane sugar from beets so that, chemically, it would be identical with that obtained from sugar cane, but in practice it is found that there are certain

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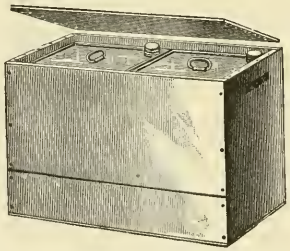

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GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

potash salts in sugar from beet which do not occur in those from sugar cane. Leather and beefsteak have chemically the same composition, but there is a difference between them. THOS. WM. COWAN.

It may be possible, as Mr. Cowan suggests, that the humid climate of England may have something to do with the matter. If it is not too much trouble I should like to have him give me the address of the cannery to which he refers—not that I in the least question his word, but because I should like to get a detailed statement from them, explaining why their experience with beet sugar has not been satisfactory.

California vs. Australia for Honey.

Why there is so much more honey produced in California than Australia, and why a much larger number of hives can be kept in one place there than in Australia—In Australia the highest mountain does not reach 8,000 feet, while in California they attain an altitude of from 16,000 to 18,000 feet. The white sage of the valleys precedes the black sage of the canyons, and the bees commence working in the valleys and then gradually fly higher up as the blossoms climb the mountain sides. It gives a much longer honey season than in regions not so mountainous. There is another fact that greatly extends the period of bloom in California—many flowers, like the white sage, are in long racemes which bloom centrifugally, that is, the outside flowers, or the lower flowers, blossom earlier than the upper. This, of course, greatly prolongs the period of bloom, and, consequently, the honey season.—The Australian Bee-Bulletin.

Tarred Paper for Packing.

Last winter I had two colonies, each in a ten-frame dovetailed hive, with a half-story full of saw-dust over the enameled mat, and the whole hive from the under edge of cover to the ground surrounded by a single thickness of tarred paper. This was secured by strips of wood tacked around where the paper lapped. The entrance, of course, was left open. The results were all that could be desired. The two colonies wintered perfectly, were strong in bees, stores sound and combs dry, and were the first to have supers put on. So well pleased am I with the results that I shall try the experiment on a larger scale this fall.

The tarred paper is virtually air-tight, at least it is wind and water proof; but when the sun shines on it its blackness causes it to absorb much heat. I often saw bees at the entrances of these hives when none could be found stirring in any of the others, and during the winter months I began to fear that the results would be disastrous, but they were quite the contrary.

Of course, this is only with two hives for one winter, and it is not safe to put too much dependence on the method until it has been more extensively tried.—A. C. MILLER, in the American Bee-Keeper.

Uniting Bees for Wintering.

A friend inquires of G. M. Doolittle as to the best way to unite two or more weak colonies for wintering. The following conversation upon the subject is given in Gleanings in Bee-Culture, Doolittle being the first speaker:

"Well, I will tell you of a plan I have used successfully for a score or more of years. The first thing to do is to place an empty hive where you wish a colony to stand; and if you can allow that to be where the stronger of the weak colonies is now standing, so much the better, as in this case the bees from this one will not have any desire to go to any other place, as this is where they have marked their old home."

"But how can I set an empty hive there when the stand is already occupied?"

"If you do this work as you should, on some day when the bees are not flying, and yet when it is not cold enough to chill bees generally, say on some cloudy day, or near sundown, when the mercury stands at from

50 to 55 degrees, you will have no trouble in setting this stronger colony to one side of its stand, and taking your time in arranging the empty hive thereon."

"Yes, I see now. But go on."

"Having the empty hive arranged, go to the several hives having the colonies which are to be united to form one colony, and blow quite a volume of smoke in at the entrance of the hive, at the same time pounding with the doubled-up hand, or with a stick, on top of the hive."

"What do you pound on the hive for?"

"This pounding on the hive causes the bees to fill themselves with honey, upon which filling depends the successful uniting of bees."

"How long should I pound?"

"I pound on them for about a minute; sometimes two, if it has been cool for some time before, so the bees are quite compactly clustered, as in this case it takes them some time to cluster and fill themselves."

"Do you keep on smoking all the time you are pounding the hive?"

"I smoke only enough to keep the bees from coming out after the first few voluminous puffs. As soon as you are through with the last one, take a wheelbarrow and wheel the hives to where you wish the united colonies to stand, which wheeling helps, by its jarring, to augment the fear of the bees, thus causing them more effectually to fill themselves with honey. After thus wheeling them together, do not delay in opening the hives, else the bees may disgorge their load of honey back into the cells again."

"Would not an assistant be good at this time?"

"One would do no harm; but I generally do this work alone. Having all near together by the hive they are to go in, open the hives and take a frame of comb and bees from one hive and place in the empty one; then take a frame from the next hive, placing it beside the first, and so keep on alternating the frames from the different hives till the empty hive is filled. In doing this, select such combs as you desire, either for brood, honey, all-worker comb, etc., thus putting the united colony on the best combs. Having the hive filled with comb, close it, when you will next take a frame from the first hive opened, and shake the bees off from it down in front of the entrance, holding close down so the bees are in or as near the entrance when leaving the combs as possible."

"Why this close holding and shaking?"

"So the bees will take wing as little as possible, and so that none need to fall so far from the hive but that they can readily run in with the majority. Having them off the first frame, next shake the bees off from a frame to the next hive, and so on, alternating in the shaking the same as in filling the hive, thus mixing the bees from the several hives all up."

"Why do you wish them mixed up?"

"The mixing of the bees takes the disposition to fight and kill one another all out of them when filled with honey as above; for when each bee touches another it is a stranger, so that the individuality of each colony is lost, and the combined two, three or four colonies unite within two or three hours to make one individual colony again, which will protect itself from all intruders, the same as the separate colonies did before."

"Is that all there is of it?"

"Not quite. As soon as the bees are all shaken off their combs, gently blow a little smoke on the outside bees to make them all enter the hive, should any be slow in doing so; and as soon as all are in the hive, place a board about half as wide as the hive against it, standing the bottom out a piece from the entrance so it stands slanting over it."

"What do you do that for?"

"This is done so that the next time the bees fly they will bump up against it, as it were, this causing them to know that it is a new location they occupy, when they will mark the place the same as a new swarm does, after which they will adhere to it instead of going back to the old location they used to occupy before uniting. And to help in this matter further, it is always best to remove everything from the old stands; so that nothing home-like remains to entice them back."

"What about the queens? Do you put them all together?"

"If there is a choice of queens in any of the colonies to be united, hunt out and kill or dispose of the poorer ones, so that the best may be preserved. This hunting-out of the queens is better done some day before the uniting, for in the smoking and pounding process the queens will not be where they are readily found when uniting. If there is no choice in queens, and the extra queens are of no value, the bees will attend to the matter, killing all but one of them."

CONVENTION NOTICES.

Chicago.—The executive committee of the Chicago Bee-Keepers' Association has ordered that the next meeting be held all day and evening, Dec. 5, 1901, at the Briggs House club-room. This is arranged on account of the low rates to be in force then for the International Live-Stock Exposition in Chicago at that time (Nov. 30 to Dec. 7), being one fare plus $2.00 for the round-trip. This notice goes by mail to nearly 300 bee-keepers near Chicago, and should result in the largest attendance we have ever had. Dr. C. C. Miller and Mr. C. P. Dadant have promised to be present. Let all come.

HERMAN F. MOORE, Sec.
GEORGE W. YORK, Pres.

Colorado.—The Colorado annual meeting promises to be a genuine success. The program has been made out for a number of weeks, and is almost ready for publication. It has come to be a privilege and an honor to read a paper before our Association, and so very few decline who are invited to write or speak for instruction. One paper is already in the hands of the secretary. On two or three nights a big magic lantern will illustrate talks by famous students of bees and the bee industry. And then we are going to have an exhibition of the choicest honey in the United States (made in Colorado, you know), and wax, with bees enough to show "how the thing is done."

If you want to know more, or have forgotten the dates (Nov. 18, 19, 20), write to the undersigned, box 432, Denver, Colo.

D. W. WORKING, Sec.

Wanted Fancy White Comb Honey in no-drip cases; also Extracted Honey. State price, delivered. We pay spot cash. FRED W. MUTH & Co., Front & Walnut Sts., Cincinnati, Ohio. Reference—German National Bank, Cincinnati.
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And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	$ .60	$1.00	$2.25	$4.00
Sweet Clover (yellow)	.90	1.70	4.00	7.50
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White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Nov. 1.—The market is easier in tone, while prices are nominally the same, but would be shaded to effect sales. Some cars of honey enroute to the Eastern cities have been diverted to this and surrounding points, which is having a depressing effect. Comb brings 14@15c for best grades of white; light amber, 12@13c; dark grades, 10@11c. Extracted, white, 5½@6½c, according to quality, flavor and package; light amber, 5½@5¾c; amber and dark, 5@5½c. Beeswax, 28c. R. A. BURNETT & Co.

CINCINNATI, Oct. 25.—The honey market is rather dull on account of the warm weather. Extracted sells only to manufacturers from 5@6c; better grades alfalfa water-white from 6@7c; white clover from 8@9c. Fancy white comb honey sells from 13½@15½c.

C. H. W. WEBER.

ALBANY, N. Y., Oct. 25.—Honey in good demand now, as this is the most satisfactory time to sell. Grocerymen are stocking up and will buy lines, when late they only buy enough to piece out. Fancy white comb, 15@16c; mixed, 14@15c; buckwheat, 12@13c. Extracted, white, 6½@7½c; mixed, 6@6½c. H. R. WRIGHT.

OMAHA, Oct. 25.—New comb honey is arriving by express in small quantities from Iowa and Colorado, and selling at $3 50 per case in a retail way. California extracted honey is being offered carlots at 4½@4¾c per pound, f.o.b. California shipping-points, but we have not heard of any sales having been made thus far. The production of extracted honey seems to be quite large this year in Colorado, Utah and California. PEYCKE BROS.

NEW YORK, Oct. 18.—Comb honey is in good demand and finds ready sale at the following quotations: Fancy white, 15c per pound; No. 1 white, 13@14c; amber, 12c; buckwheat, 10@11c. Extracted rather quiet at 6@6¼c for white, and 5½@6¼c for amber. Beeswax rather quiet at 27@28c. HILDRETH & SEGELKEN.

BOSTON, Oct. 21.—There is a fairly good demand for stocks with ample supplies at the present writing. Fancy No. 1, in cartons, 15½@16c; A No. 1, in cartons, 15@15½c; No 1, 15c; very little No. 2 is being received; glass-front cases will bring about ½c per pound less. Light California extracted, 7¼@8c; Florida honey, 6½@7c. BLAKE, SCOTT & LEE.

DES MOINES, Oct. 25.—There is very little doing here in new crop of honey. Some small lots of near-by produced comb honey are on the market and selling in a retail way at $3.50 to $3.75 per case. We do not look for much trade in this line before Sept. 1. Our market does not consume a great deal of extracted honey.

PEYCKE BROS. & CHANEY.

DETROIT, Oct. 25.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.

M. H. HUNT & SON.

SAN FRANCISCO, Oct. 16.—White comb, 10@12 cents; amber, 7@9c; dark, 6@7 cents. Extracted, white, 5½@—; light amber, 4½@—; amber, 4@—.

Values are ruling steady, with no very heavy spot offerings and a fair inquiry, more especially for extracted. A sailing vessel, clearing the past week for England, took as part cargo 575 cases of extracted honey, and 453 cases extracted went by sail for New York.

Beeswax—Good to choice, light, 26@28c. No heavy quantities arriving, and stocks are given little or no opportunity to accumulate to any noteworthy extent. Values are without quotable change.

KANSAS CITY, Oct. 25.—Up to the present time only small lots of new comb honey have been on the market, and these met with ready sale on the basis of 15@16c per pound for fancy white. For next week heavier receipts are expected and quotations are issued at $2.10@$2.25 per case for large lots, which would be equal to about 14@14½c; the demand being quite brisk, a firm market is anticipated. Inquiries for extracted are a little more numerous, but large buyers still seem to have their ideas too low. In a small way 5½@6c is quotable.

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EUGENE SECOR and DR. C. C. MILLER.

PRICES—Either song will be mailed for 10 cents (stamps or silver), or both for only 15 cents. Or, for $1.00 *strictly in advance* payment of a year's subscription to the American Bee Journal, we will mail both of these songs free, *if asked for.*

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Low Freight and Quick Delivery. To secure these two necessary advantages—low freight and quick delivery—and to be better prepared to serve the interests of our Texas friends, is our reason for establishing this new branch office. No other point in Southern Texas is better adapted to serve as a distributing point than San Antonio. It has four great railroads—the Southern Pacific R. R. east and West—the International and Great Northern R. R. from Laredo up through San Antonio and Central Texas, the San Antonio and Arkansas Pass R. R., and San Antonio and Gulf R. R. It also has the American, Wells-Fargo and Pacific Express Companies.

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Our Managers. We have secured as managers Mr. Udo Toepperwein, formerly of Leon Springs, and Mr. A. Y. Walton, Jr., both of whom are well known to the bee-keepers of South and Central Texas. They are also thoroughly familiar with practical bee-keeping and all matters associated with it, and any orders sent to this branch will receive prompt, careful attention.

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Our Catalog. Very few changes in prices will be made in our new catalog, so do not delay your order, but send it at once. You will be allowed a refund if lower prices are made, and in case of higher prices ruling in the new catalog, if any, you will secure the benefit by ordering now. Catalog and estimates may be had by applying to the address given below.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., NOVEMBER 14, 1901.

FORTY-FIRST YEAR
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WEEKLY

A BRIDAL QUARTETTE—THE HUTCHINSON TWIN DAUGHTERS AND THEIR HUSBANDS.—
(See page 722.)

THE AMERICAN BEE JOURNAL.

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DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

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To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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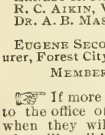
A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

MR. A. N. DRAPER, of Madison Co., Ill., called on us recently when in Chicago on business. He reported a very poor honey crop from his 250 colonies of bees.

MR. E. B. GLADISH, secretary of the Leahy Mfg. Co., gave us a short call last week, when on a trip among the bee-supply manufacturers of Wisconsin. He reports doing the largest volume of business the past season in the history of their firm, even exporting a carload or so of supplies to Cuba.

THE CHICAGO CONVENTION, Dec. 5, gives good promise of being a genuine "hummer." Already we have had notice from several bee-keepers from Iowa who are planning to be present. Of course, Wisconsin and Indiana will be well represented. We wouldn't be surprised if Ohio would be on hand, too.

Editor Hutchinson, over in Michigan, wrote us as follows, Oct. 31:

FRIEND YORK:—I am pleased to see the indications that your Chicago convention promises to develop into something like the old Northwestern meetings I am going to give a good send-off in the next Review, and then take a run over myself and attend the meeting. W. Z. HUTCHINSON.

There's nothing the matter with that. As Dr. C. C. Miller and C. P. Dadant have also promised to come, a splendid meeting is already assured.

But there must be a big turn-out of bee-keepers living near Chicago. The coming convention can easily be made to equal the Buffalo convention, both in attendance and profitable discussion. All in the Northwest can not attend the annual meeting of the National Bee-Keepers' Association, but everybody wants to come to Chicago, and can generally do so if a real desire to come exists.

The Revere House, southeast corner of Clark and Michigan streets, will rent rooms at 75 cents or $1.00 per night, depending upon the kind of room taken. This is the hotel where many bee-keepers stopped when attending the Chicago meeting of the National Association in 1900. Of course, there are many other places besides the Revere House.

THE BRIDAL PARTY, shown on our first page this week, will be a complete surprise to the quartette represented, for their consent to it was not secured, but we think they will not protest very seriously, as such a fine wedding group is not seen every day.

We need hardly remind many of our readers that the girls are the twin daughters of our brother editor, W. Z. Hutchinson, of Genesee Co., Mich. They had a double wedding, Oct. 16, so Mr. H. that day added "twin boys" to his family, which was quite in keeping with the coming of the twin girls 23 years ago.

The couple on the right in the picture is Mr. and Mrs. (Nora) A. G. Hartshorn; the one on the left Mr. and Mrs. (Cora) E. F. Hanneman. Quite a wedding was made for them, but instead of paying a florist a high price to decorate the house, most of it was done by the Hutchinson family, including "the boys." The parlor was trimmed with asparagus and palms. Then there was a double arch of smilax, with a floral bell of white carnations suspended from the top of each arch. The sitting-room was trimmed with pine boughs. Mr. Hutchinson himself went up the river two or three miles into the woods and gathered the branches of pine. Then he went to his old home, where there was a large mountain ash, climbed the tree and brought home a basket of the bright red berries; these the girls mingled among the dark green of the pine twigs. They covered the walls of the dining-room with sheets of thick, heavy paper, tacking them on. Paste was then applied to the paper, and bright autumn leaves stuck on, overlapping them like the shingles on a roof. Pains were taken to get bright colors—yellow, red, brown, green, etc., mingling them together. It took the boys and girls, with Mr. H. himself, one entire day to decorate this room, but it was novel and beautiful, and "brought down the house."

We learn that a large number of beautiful and useful presents were received; and the girls and their husbands have gone to housekeeping in homes of their own, in a style quite a little beyond the humble beginning of Mr. Hutchinson and his wife. We understand that the young men are good, honest and upright, and free from any bad habits. Of course, such girls wouldn't choose any other kind. Mr. Hartshorn has always lived in Genesee county, and is a clerk in a leading dry goods house. Mr. Hanneman was born in Germany, came to this country when eight years old, served Uncle Sam two years in the Philippines, coming home last April, and is now a trimmer in a carriage factory.

One very pleasant feature is that "Nora" is to live right next door to her father, while "Cora" is to be only one block away.

We wish to extend our heartiest congratulations to all concerned, and hope that any troubles that may come to the quartette may be "only little ones."

MR. A. E. WILLCUTT, of Hampshire Co., Mass., has his neat little apiary shown on page 727. When sending the photograph, Mr. Willcutt wrote as follows:

I very much enjoy looking at the pictures of our bee-friends and their apiaries, which appear in the "Old Reliable" from time to time. Let us thank the several editors of the existing bee-papers for the many beautiful illustrations which appear in their publications.

Not wishing to appear selfish along this line, I send a photograph of my apiary, which will also give at least a "squint" at "Yours Truly" among the "little pets." The lady in the picture is my "favorite queen;" the boy is her brother, and is taking a lesson in handling a frame of bees. The hive we have open is not shown in the picture. I make all my hives, supers, and most of the brood-frames. I use the Langstroth hive, 10-frame size, and work for both comb and extracted honey.

It has been a poor honey season in this "locality," bee-keepers on all sides reporting little or no surplus. I have one colony of black bees which gave me 66 one-pound sections of honey and 10 pounds of extracted, also one large swarm. I have three and five banded Italians in my yard, but the blacks took the lead this year as honey-gatherers.

I have only one thing new to offer, and that is the shade-board which I use, one of which can be seen leaning against a hive, and shows it to be No. 14. They are made of material that will not shrink, crack or decay in any climate, not excepting Colorado. They are made of half-inch material, 24x30 inches. If painted white they are very pretty, and keep the hives cool in hot weather. I use a ½-inch plain cover under them. It is easy to form an air-space by laying a strip under one or both ends of the shade-boards the desired thickness. We have had some very hot weather the past summer, but I have had no trouble from combs melting down, and but very few bees clustered outside the hives. These shade-covers need no bricks, rocks, or any other unsightly thing to keep them from blowing off, for they are made of *stone*. We have a stone-quarry where I get them out, and the cost is but a few cents each.

A. E. WILLCUTT.

P. S.—I forgot to say that I took first money (or prize) on honey at our annual fair this year. I also had on exhibition an observatory hive of Golden Italian bees, the only exhibit of bees at the fair.—A. E. W.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., NOVEMBER 14, 1901. No. 46.

Editorial.

The Cold Snap.—Did it catch you? No doubt it did a good many. The latter part of October was so summer-like that it was easy to think that freezing weather might be far away, and so some last preparations for cold weather were put off from day to day with the thought that there was no immediate need for haste until the weather became at least *a little* colder. But that "little colder" weather never came. From summer weather there was a sudden jump right into winter weather. Here in northern Illinois we had in the last end of October a temperature of 80 degrees. All at once a cold west wind set in the night of Nov. 3, and by morning the thermometer registered 12 degrees.

Now, don't you wish that colony short of stores had been attended to in September? Well, look out another year.

Long Smellers.—A clipping from the Belfast Blaze, which has been received, contains among other things the following:

Mr. Ballard says that a honey-bee can smell clover honey two miles away. He cites an instance that once the nearest clover to his bees was over a mountain in the Hell Hollow district two miles away, and his bees all went there to gather honey. He says if you go out in the woods half a mile from a hive and burn some honey-comb that within ten minutes the bees will be attracted there from the hive by the sense of smell, if the wind is right. But some of the ways of the honey-bee are past finding out.

This is a case of correct premises, with a false conclusion drawn therefrom. It is true that bees will find a clover-field two miles from their home, and that in a few minutes they will find burning honey-comb within a half mile; but it by no means follows that they can smell anything two miles, or even half a mile, away. It would be just as reasonable to say that when a man went hunting and shot a squirrel two miles from home he saw the squirrel when two miles away. Bees are good hunters rather than long smellers.

Profits of Bee-Keeping are sometimes painted in rather bright colors, even when there is no real intention to mislead. Referring to some remarks on page 579 of this journal, in which some very bright painting in the August number of the American Bee-Keeper was commented upon, the editor of that journal says:

There can be no doubt that the glowing pictures sometimes painted of bee-culture and its profits are open to criticism. The beginner—especially the youthful beginner—may in this way be led to expect too much; yet, with reference to the question in hand, we think no bee-keeper of experience would be inclined to regard $5.00 per colony as big returns. It should always be borne in mind that any business enterprise is subject to adverse conditions and casualities. Then, there is a limit of one's personal capabilities to be taken into consideration. One apiarist can not properly attend to several apiaries; expense increases in proportion with the stock; forage must also be afforded in equal ratio. One colony might easily produce 100 pounds of comb honey. This might readily find a market at $16.00; though one does not often hear of an apiary of 100 colonies yielding 10,000 pounds of honey, and that selling for $1,600. We do not think it has occurred in recent years, that any apiaries of 1000 colonies have yielded $16,000 worth of honey in one season, for reasons intimated above.

This is very appropriately said, and might well have been said in the August number, all except the part in which Editor Hill seems to support the statement: "It is a conservative estimate of the bee-keepers generally, however, that each colony should bring in at least five dollars a year." Does our esteemed fellow editor really believe that? If it be true, then it could be hardly out of the way to say to the would-be beginner: "If you have 50 colonies, you may be sure of $250 *at least* in the very poorest year, and much more in a good year." Would he say that?

Temperature for Feeding Back, says Adrian Getaz, in the Bee-Keepers' Review, must be that of hot weather, or there will be loss of honey from consumption to keep up the proper heat. No one has ever made a success of feeding back except in hot weather *and hot nights*.

Confinement of Laying Queens.—In Gleanings in Bee-Culture, a foot-note to an article by Arthur C. Miller, reads as follows:

You may be right; but is it not putting it a little strong when you say, "We do *know* that the sudden confinement of a queen when in the full exercise of her natural functions almost always works serious injury.....We also *know* that a queen laying slowly, as in a small nucleus, can be caged with but little or no apparent injury?" You italicize the word *know* as if the facts were established. Now, is that true? There has been a sort of surmise entertained by many good bee-keepers that both of these propositions might be true; but has either one of them been clearly and decidedly demonstrated? Understand, I do not deny either proposition; but I raise the question whether we have so far reported facts sufficient to prove, beyond a peradventure, both statements. In partial support of one statement, I will say that we have sent out sometimes, from our apiary, queens that were in full laying, and yet which on arrival at destination proved to be very unsatisfactory, laid a few eggs, and disappeared. At other times we have taken queens from their hives in the height of the season, put them up in mailing-cages, and, later on, had most flattering reports from them. We send out a good many thousand queens in a season; and, unless I am very much mistaken, the majority of such queens (even when doing full duty) have deported themselves very creditably on arrival at their new home. If there is any queen-breeder, aside from Mr. Alley, who first cages in a small nucleus before sending out queens, I should like to have him hold up his hand. Now, understand, friend Miller, this is not offered as a challenge, but because I do honestly seek the truth. If it is demonstrated clearly that a queen removed from the hive when laying to her fullest capacity, and caged long enough to make a journey through the mails, is injured, then the sooner we prove the fact the better it will be for the breeder as well as for his customer.

It seems pretty certain that when queens are sent through the mails they are sometimes much the worse after the journey, and sometimes as good as ever. This has been explained heretofore, and perhaps satisfactorily, without laying any blame upon sudden confinement. There is a very great difference between the weight of a queen when laying two or three thousand eggs in a day and when not laying at all. A light-weight queen, when sent through the mail, has little difficulty in maintaining her footing in the cage, no matter what jars or jolts. On the other hand, when very heavy with eggs, a light jar makes her lose her hold, and a heavy jar may make her strike against the wood of the cage in such a way as to be seriously injured. It is a matter of accident, the light weight being little subject to accident, and the greater the weight the greater the danger of accident. Yet a queen very heavy with eggs *may* go through in safety, the next one may be injured so as to be almost, if not entirely, worthless.

Ventilating Bees When Hauled.—R. F. Holtermann, in Gleanings in Bee-Culture, recommends as the best thing a sort of portico or cage of wire-cloth at the entrance of the hive. This was in use many years ago, and serves a good purpose. For those, however, who have deep bottom-boards, there is a cheaper, easier, and perhaps better way. If the bottom-board is two inches deep, there will be an entrance of the same depth, and this can be closed very simply with a single piece of wire-cloth. Then there will be under the hive a well-ventilated space in which the bees can congregate when it is too warm for them to stay on the combs, that space being, if an 8-frame hive is used, about 480 cubic inches in volume.

The Illinois State Convention is to meet in Springfield, Nov. 19 and 20. See fuller notice elsewhere in this issue.

The Buffalo Convention.

Report of the Proceedings of the Thirty-Second Annual Convention of the National Bee-Keepers' Association, held at Buffalo, New York, Sept. 10, 11 and 12, 1901.

(Continued from page 711.)

QUEEN-REARING—IN-BREEDING.

"In rearing queens is in-breeding objectionable?"

Mrs. H. G. Acklin, of Minnesota—There are so many present who are much more extensive queen-breeders than myself, that I would rather hear an expression from them. I think it is objectionable. We get queens from several different breeders and bring into our apiary every year.

Dr. Mason—Then your practice is not to in-breed?

Mrs. Acklin—Yes.

Dr. Mason—What makes you think it is objectionable?

Mrs. Acklin—I really don't know. In getting new queens you change your stock, of course, and get good qualities; in getting queens from different breeders and bringing in the best drones from your best colonies, you get your best stock. Of course, if you have any bad qualities in your queens at home you change them to a certain extent. We watch our queens very closely.

Dr. Mason—Why not dispose of the queens that you have that have bad qualities, and keep those that have the good, and breed from those right along?

Mrs. Acklin—I don't know as I am able to answer that.

Mr. Benton—It doesn't seem to me that there is the least objection to continued close in-and-in breeding, of itself. That means, of itself. Note well. In other words, if you have the intelligence to select the queens, and select the queens to breed drones with reference to the qualities which they possess and which you wish to perpetuate and fix in the progeny, and to avoid weaknesses, select such queens as mothers of the drones as will avoid weaknesses that are inherent in that strain that you are breeding from. From in-and-in breeding we can fix a type, or character, which we could not by constantly bringing in different strains or crosses. In all our hybrid animals the types have been established. We have a beef animal; we have a milk animal; we have a sheep that gives us long wool, and fowls that produce eggs, others produce meat, and so on, and in every instance all of those particular-purpose animals have been produced by careful, intelligent in-and-in breeding. From the very earliest start, therefore, I claim that in-and-in breeding is not harmful, but it is the lack of ability or experience to apply it that results badly. When we have a strain with a weakness and we do not bring in any other stock at all, we do not breed intelligently enough to fix the stronger points in the breed, and eventually that strain will run out.

Mr. West—In regard to this in-and-in breeding, the question I was going to ask is, How much does that mean? Can we confine in-and-in breeding to bees with a queen of the same individual hive and let that constitute an apiary, and use the drones from that individual hive from year to year and remove all other colonies from the place? Would it be beneficial to in-and-in breed in that way?

Mr. Benton—I don't suppose such a case occurs at all, and in actual practice there is very little in-and-in breeding. It would require great care and attention, and the controlling of the drone-production and isolation of the apiary so that in actual practice there is more cross-breeding than in-and-in breeding. I really think it has been held up as a bugbear, and people that supposed they were breeding in-and-in were really not doing so, because there was such constant out-crossing, and I don't think that we would be able, with the greatest care, to confine to as close in-breeding as Mr. West refers to. When we speak of it generally, I think it refers to close breeding more than in-and-in breeding, confining drone-production and using perhaps the same queen mother constantly.

Dr. Mason—Perhaps 30 years ago I had a brother who kept bees, and I started in from two colonies that he gave me. He lived at least fifteen miles from anybody that kept bees. He got a good queen and he never bought any more, but he was constantly getting rid of the queens that showed poor qualities, and he had the best honey-gatherers I ever knew. He kept the bees pure. They were gentle and as nice as one wishes to see. That is what makes me believe in in-and-in breeding. They were Italian bees. I have a neighbor who raises poultry. He commenced nine years ago with a trio of Buff Cochins. He never has gotten another fowl of any description to put with his own. He has bred from his own and is a prominent exhibitor at poultry shows, and frequently acts as judge at large poultry exhibitions, and he always gets first premium on his Cochins that are in-and-in bred. These two things make me in favor of in-and-in breeding. I got a queen from a Michigan man last year, and I have tried to breed from that queen both queens and drones, and I think I have succeeded pretty well, and if I have done what I think I have done I don't want anything better. I am in favor of in-and-in breeding, but intelligently, as Mr. Benton talks about. It cannot be done at haphazard, taking anything and everything that comes along in your own apiary.

Mr. Abbott—I feel as if I wanted to vote on this. I am surprised to know that a man who has given as much attention to science as Mr. Benton has, is so in accord with the view that I have held for years, and which has been combatted by poultry people, and by everybody, in fact, wherever I have expressed it. This idea, which originated with Darwin, and has been repeated without limit since that time, has gotten such a hold in the world that it is pretty hard to get it out of the minds of the people. In fact, some people think they ought to be against in-and-in breeding because it is forbidden in the Bible. They sometimes give that as a reason. But, so far as animals are concerned, the best illustration of the result of in-and-in breeding is found in the State of New York. There is a man who originated what is known as the American Holderness cattle, and those cattle originated from a single cow that came from the Holderness cattle of England, some 40 years ago, and dropped a male calf, and all the cattle of that herd have that blood in them, said to be the finest herd of cattle on this continent. That man has used intelligent in-and-in breeding. He has taken out all of the bad qualities, eliminated them as fast as he came in contact with them, and bred in the good qualities, and that is what I believe in. The poultry people, of course, who have males to sell, would like to have you believe that it is a good thing to send across the continent and buy a male at a high price in order to keep your poultry healthy. I have been doing myself just what Dr. Mason says his neighbor has been doing, breeding Golden Wyandottes, and I haven't had any new blood for years, and I am quite sure that if I live for 50 years more (and I hope I will 100), I am quite sure that there will be no new blood go into that stock, but I kill every roopy hen, I exterminate every diseased rooster, and wipe out with the hatchet all tendency to disease; I don't tamper with it; I don't fool with it; I simply bury it beneath the ground out of sight. I believe that if bee-keepers can control bee-fertilization some time in the future, that they can get the best results from in-and-in breeding. I hope that we will get rid of this whole idea of Darwin, that cross-fertilization is necessary to perpetuate the race. There is nothing in it.

Mr. Benton—That person who obtained that trio of Buff Cochins must have gotten good stock, and then probably has selected intelligently. Now, suppose he had found, after breeding, that there had been some trouble with the stock, like leg weakness for instance, it is very doubtful if he could have gotten rid of it by simply killing off the old stock. It is probable that he would have had to cross with another lot of Cochins, fowls with good, strong legs we will say, for instance; in other words, put good legs on what is already good stock. I think in applying that to the bees, we would want, in some instances, to get a queen into our apiary of another race. To show how near qualities can be fixed by in-and-in breeding, I will allude to an experience of mine: I had some Rose Comb Black Minorca fowls, and I had a male of that breed and a female of the Rose Comb White Minorca. It occurred to me that no one had pro-

duced Rose Comb White Minorcas, so I started with that jet-black male Minorca, and the single-comb White Minorca hens. Now, after two or three generations, I get fowls that are pretty nearly white all over, by selection. I selected the lightest always, and by elimination in that way, in a few generations I secured a fowl that was entirely white, and reproduced itself and had a low rose comb, the true Minorca type, without any crossing with Leghorns or any other type at all, and produced with a male that was jet black, and whose progeny were always jet black. Occasionally, one of them would throw back, but that was only the exception, and that was done by in-and-in breeding. After this first cross between the jet-black male and the white female I didn't get any other blood into them.

J. H. M. Cook, of New York—What relation is the drone of a hive to the virgin queen produced in that hive? What true relation do they hold to each other?

Mr. Benton—You might say half-brother, perhaps.

Dr. Miller—I do believe that there has been a great deal of misapprehension on this subject, and yet amongst intelligent breeders I don't think that Mr. Abbott has been so much alone as perhaps he has felt. He has had good company. I believe that all intelligent breeders will tell you that if you put down the dictum that in-breeding must not be allowed, that it puts an end to nearly all improvement in breeding. It should be understood that in-breeding is the thing through which you will perpetuate the good qualities, and it is also the thing through which you will perpetuate the bad qualities. It is a good thing that a part, at least, of that old view should remain and to understand that fresh blood introduced will be a good thing, and that the cross-breeding after all is for the average layman the safe thing rather than to continue to breed exactly the same stock straight along. I believe the old view, just as bad as it may be, is the safer view. If you get into a man's head the idea that he doesn't need to pay the least attention to in-breeding, and that no harm can come from that, you are going to damage that man beyond computation.

Mrs. Acklin—We get our queens from different queen-breeders occasionally to try them, and we test them two years anyway before we take them in, but we always get the same strain of bee; we don't make a cross at all, and I suppose that there always is more or less in-breeding, because a great many times we breed from the same bees.

Mr. McEvoy—I would like to have Mr. Benton's opinion on the subject of crossing good Italians with Carniolans. Would it be profitable?

Adjourned to 1:30 p. m.

Wednesday Afternoon Session.

The convention was called to order at 1:30 o'clock by Pres. Root, but, owing to a meeting of the Board of Directors at the same hour, he called Mr. York to the chair. The question asked by Mr. McEvoy previous to adjournment was then taken up.

Mr. Benton—I have never crossed Carniolans with Italians, so that my opinion in that matter would have to be theoretical, and from what others have told me. As I was rearing Carniolans exclusively in one of my apiaries and have had Italians in another, and not desiring to cross the two races, I haven't attempted any experiments in that line. I have heard, however, very favorable reports of such crosses, and I see no reason why they should not be successful. The general type of the two races is alike as regards the form of the bee and their general economy in every way. They are not so radically different as the bees of Europe and the bees of the Orient. The Eastern races of bees are an entirely different type, and to cross an Eastern bee with the races native to Europe, would be like crossing, we will say, a race-horse and a cart-horse; some such comparison might be made, but when you come to crossing Italians and the Carniolan bees there is not that radical departure from the general type, and I see no reason why the two races would not amalgamate well, and having made the first direct cross I would then keep myself close to the Carniolan type, and wouldn't make any other direct cross, but breed from the best constantly. In case I brought in any fresh blood after that first cross I should myself desire to keep close to the Carniolan, simply because of the qualities that they possess, but I believe that the Italian would introduce a disposition in the bees perhaps to breed a little bit less during the honey-dearth than the Carniolans, and in some localities that might be beneficial, provided, of course, you could get those bees to breed during a dearth for a future harvest without having to feed them too long. The Italians, when the honey harvest lets up, are disposed to breed less than the Carniolans. The Carniolans are continually breeding during this time. That is a good quality, provided those bees that are produced then can be brought into a succeeding harvest. If there is no succeeding harvest to put them into immediately, it would hardly pay to feed them up to the time of the next harvest. In such conditions I think such crossing would be beneficial.

Dr. Mason—I had two of Mr. Benton's queens that I crossed with Italians, and I think they made the crossest bees in the country, outside of Mr. Coggshall's apiaries.

Mr. Benton—It seems to me that would be rather an exceptional condition, and, as I suggested, by keeping close to the first cross the gentleness would preserve in the main.

Hive-covers for Summer and Winter.

"Have we a satisfactory hive-cover? Is there one made with a dead-air space so as to be warm for winter and cool for summer, and that will not warp or twist?"

Mr. Heise—When that question was raised I was wondering why any one wanted a warm hive-cover in winter; all that I want a hive-cover for is to keep dry the packing that I expect to keep the bees warm with. All that I use is a half-inch board for the roof, painted white on the top, which makes it cooler in the summer. I provide my bees with sufficient packing under the cover, and I don't care much what the cover is like so long as it keeps the packing dry.

G. F. Davidson—We use in Texas a flat cover without an air-space, but I never found one yet that wouldn't warp. We need an air-space in the summer to keep the combs from melting down, but we never have found one yet that would not warp in Texas. We have used the flat board, and the covers that were made of three different boards, "auxiliary covers" they are called, and they all warp in Texas. We have there about six or seven months of sunshine, without any rain on them.

Mr. Betsinger—I have a cover that doesn't warp or twist. It is a simple frame box with a tin cover telescoped on top of the hive, and is cleated so that the cover doesn't come down to the board within half an inch. Now, the telescope cover is half an inch larger every way than the hive. That cover won't warp or twist I don't care where you put it. And it is cool in the summer; I never had combs melt under it. For experiment I had made another case just like the cover with the cover fitted that left a dead-air space all around the inner hive, then combs melted. A telescope cover lets the air all around the interior of the hive, and although the sun shines directly on it, the combs will never melt under it. The covers will cost about 50 cents apiece if you make them right. A 14x 20 sheet of tin makes the cover.

As Mr. York was called out to confer with the Board of Directors at this time, Mr. Heise was requested to take the chair.

Mr. Wilcox—I have a gable-roof cover that sheds the water and is a very good one. I have also such a cover as Mr. Betsinger has described, which also sheds water. Either will do well, but to guard against the melting of comb in very hot weather you need the double thickness with the air-space between, in some localities, but I would rather have a cover, if possible, that would make a hive warmer than to make it cooler. In Wisconsin we are troubled more with cold weather than warm weather, but the difficulty has been with flat covers—the water would seem to work in it, ooze in around the hive, unless you have a gable cover, and I want something better if there is any.

Mr. Heise—I would like to have the next person who takes up the subject of hive-covers to tell us what is a dead-air space.

Mr. Wilcox.—If you have a gable cover it is easy enough to lay a flat cover inside of that, and there will be a dead-air space. A dead-air space is simply the thickness between two pieces of boards where the air cannot circulate.

Mr. Betsinger—That point is very important. We don't want dead air; we want live air.

Mr. Wilcox I want to criticise that. He says we don't want it. It depends upon what result he desires to attain. The dead-air space to keep the cold out; the opposite to let the cold in, in hot weather.

Mr. Betsinger—A dead-air space is colder than no space at all. When the sun shines more heat will penetrate through one wall than two walls. The interior of the hive is dryer where the sun can shine on one single wall.

Mr. Wilcox—Suppose it is so cloudy for three months that the sun doesn't

shine, and all the heat comes from the bees.

HIVING A SWARM WITH A NUCLEUS.

"When a swarm issues with a clipped queen, if the hive with the clipped queen be removed and replaced by a hive containing a nucleus, will the returning swarm kill the queen in the nucleus?"

W. L. Coggshall—If you get foreign bees with a strange queen, they will kill it invariably.

Dr. Mason—That is, if it is a swarm that has gone out, and they come back to a nucleus that has a queen, will they kill that queen?

W. L. Coggshall—Strange bees are quite apt to kill another queen.

Mr. Betsinger—My opinion is that they wouldn't kill the queen, for the very reason that the nucleus wouldn't let them.

Mr. Wilcox—My experience is that they will not, nine times out of ten.

Mr. West—If I had swarming that way, with a nucleus, after removing the old colony, when the swarm returns I would shake the nucleus bees off on the ground and let them return with the swarm. When the swarm is returning the old queen has been caged, and removed. Shake the nucleus—bees, queen and all—and let them all run in together, and all is well.

Mr. McEvoy—I don't think you can do any better if you talk a whole afternoon to discuss the question.

Mr. Tyrrell—I would like to ask if a little smoke applied to that nucleus wouldn't produce the same effect as shaking the bees?

Mr. Wilcox—Before the others returned I have often poured them down from the hiving-box, smoked the nucleus and united them with weak swarms.

Mr. Heise—When that swarm returns, having lost their queen, there is very little fight in them. They will accept almost anything—glad to get a home.

Dr. Mason—If Mr. Betsinger is correct in that matter, and the nucleus will protect the queen, and you smoke that nucleus, that takes the protect out of them, doesn't it?

KNOWING WHETHER A VIRGIN QUEEN IS PRESENT.

"How can I tell whether there is a virgin queen in a hive if I cannot find her?"

F. J. Miller—There is no way that I know except to wait a few days and look for larvæ or eggs.

W. L. Coggshall—You will see the bottom of the cells polished out where the brood-nest is.

Mr. Cook—Place a frame of brood in it and wait three days.

Mr. Davidson—They make a queenless noise.

Mr. Benton—Watch the entrance just at sundown after they have lost their virgin queen and they will be running excitedly about seeking for the queen. I want to ask Mr. Coggshall if the bees begin to polish out these worker-cells before the time approaches for the queen to begin laying eggs. They will begin to remove the honey and polish out the cells, but they will not do it until near the time she is about to lay. The point would be, I suppose, not to lose any time waiting for that time.

W. L. Coggshall—That would give you warning that she is there.

SELECTING LARVÆ FOR QUEEN-REARING

"When a colony is made queenless will the bees, in their haste to rear a successor, select larvæ too old to secure the best results?"

Mr. Davidson—I think it is very seldom that the bees select that kind of larvæ. I have noticed it only a few times in my experience with bees, that they have selected larvæ too old. I have seen some hatched out about the ninth day and it didn't look as well as it would if reared from younger larvæ. I think that it is very seldom that the bees make that mistake.

Mr. Benton—I agree with Mr. Davidson. The conditions under which they do select rather too old larvæ seem to be when the colony is weakened by any means; for instance, it is a small colony, or what might be called only a nucleus, but a colony in good condition and gathering honey rapidly. will rarely make a mistake and get the larvæ too old.

Mr. West—In regard to removing a queen from a colony of bees, I have an apiary of about 80 colonies that about June 1 and about the time the swarming begins, I remove the queens from these colonies of bees and on about the 10th day I again remove all the queen-cells that are started in that apiary. I save the choicest cells for rearing queens, and from those cells I rear young queens which are replaced again in those colonies about four days later. We do that to control swarming. We have other objects in view, and through several years of selecting our best cells in that way, we rear about as many queens again as we need, and we make a selection again by using the best queens according to our judgment. I have never had better results in any apiary than I have had by getting my queens in this way.

HOW LONG TO REAR A QUEEN?

"How long from the laying of the egg to the emerging of the queen?"

Mr. West—16 days, generally.

Mr. Betsinger—It varies from 15 to 17. The largest colonies getting the most honey will produce queens that will mature quicker than smaller colonies with less honey.

Mr. West—If colonies are in a normal condition and everything favorable it will not vary from 16 days.

Mr. Benton—It is a question of continuity of heat in the hive, and I agree with Mr. Betsinger in the main. The time varies one way or the other for a number of hours. It may be less than 16 days or a little more than 16 days, but in a well-developed colony where the heat is continuous, I think the average time is about 16 days. We find the worker-bees sometimes come out in 19 days and very commonly in continuous heat in the latitude of Washington they emerge on the 20th day from the time the egg is laid, showing it is due to steady heat which develops more rapidly.

YIELD OF HONEY PER COLONY.

"Which will give the greatest yield, a colony and its swarm, or the same colony if it does not swarm?"

Mr. Hershiser—It depends entirely upon how early in the season you get the swarm.

Mr. Greiner—It depends also upon how it develops. If you have a late flow I should say the swarm and the mother colony will produce the most honey, every time.

Mr. Betsingsr—It depends largely upon who has hold of the helm.

Mr. McEvoy—It depends a good deal on how you manage the business.

Mr. Betsinger—I will say to those bee-keepers who can get the most honey out of a colony of bees that does not swarm, they have something to learn.

A Member—In my locality they would say no swarming. Keep them together.

Mr. Niver—I have always contended that I like Carniolan bees because they would swarm. The more they swarm the better. An Italian colony will stop breeding at the time of a honey-flow, and at the end of a late honey-flow, which comes about July 20 with us, if they stop breeding for a month, and we haven't got a good, big colony to commence the buckwheat with, we don't get much honey.

W. L. Coggshall—We get more from the increase and the colonies divided.

Mr. Greiner—Would that apply to your colony through two or three swarms?

Mr. Niver—Perhaps that is stating it a little strong. When you get second and third swarms you are weakening your colonies all around. I always like the Carniolan bees because they swarm.

Mr. McEvoy—Couldn't we divide this question up a little? When the honey-flow ends early and they have no buckwheat, how can I manage the business to get the most honey from one colony?

Mr. Betsinger—We have on record colonies producing from 600 to 800 pounds—single colonies. Now, then, was there ever more honey produced from a first mother colony and its increase—extracted honey?

Mr. McEvoy—Was there buckwheat in that locality?

Mr. Betsinger—A moderate supply of everything right through.

Mr. Benton—I think, perhaps, it might be interesting in this connection to speak of the practice in Carniola itself. It is a great buckwheat country. There are miles upon miles of buckwheat there. The whole practice of the bee-keepers there is to stimulate their colonies to the utmost in the spring and right through the swarming season by feeding them—feeding them at times when I wouldn't think of feeding at all; when the bees are still gathering they rush them forward by great stimulation. The point is to get them to cast two or three swarms from each colony, to get them into condition for the buckwheat harvest, and they get excellent results, and better, I think, than they would by preventing the swarming, in that region. The largest yield on record was where there was considerable swarming—seven or eight colonies taken from one—and all got in condition for a fall harvest, not a buckwheat harvest; that is, of Mr. B. F. Carroll, of Texas, which was 1,000 pounds.

Mr. West—The question depends upon so many circumstances. If we have but a very few bees in the apiary and they are strong and well-to-do in the early spring, let them swarm and

you can get more from the swarm and the parent colony; but where we have an apiary of 80 to 100 colonies, and all the bees we need to gather the surplus honey of the field, I prefer not to have any increase to amount to anything, because the old colony will gather the honey, and it makes us less work in handling hives and extra fixtures, and it saves us considerable work.

W. L. Coggshall—From what Mr. Betsinger said about feeding, you might infer that I feed sugar to stimulate. I never fed a pound of sugar in my life to stimulate.

WAX-SECRETION.

"Is wax secretion voluntary or involuntary?"

Mr. Benton—Largely voluntary.

Mr. Betsinger—I'd like to know why.

Mr. Benton—Simply this: If we give a colony its combs there is not a great secretion of wax, even though they are gathering honey rapidly. If, on the other hand, we give a colony starters or hive it in an empty hive, it has its combs to build, and it will use quantities of honey that otherwise would be stored, in the secretion of wax to build those combs. Therefore, I regard it as voluntary, since in the one instance they have used no wax to amount to anything, and in the other they have used a good deal when there was the need of it.

Mr. Betsinger—You plant a little grain in the ground and it comes up and grows. Is that voluntary or involuntary? You can hold it back or you can force it. So it is with bees. They secrete wax and they cannot help it so long as they gather honey, but you can increase that by feeding. But they are compelled to secrete wax so long as they live and gather honey.

(Continued next week.)

Contributed Articles.

Unfinished Sections in the Fall—How to Obviate Them.

BY G. M. DOOLITTLE.

A correspondent writes thus: "Nearly every fall I have half or more of my sections in the unfinished or uncapped state; and especially has this been the case the present fall, when very nearly two-thirds of them were unsalable on account of their not being capped over. Could you not tell us something about how this can be prevented, through the columns of the American Bee Journal?"

WELL, I will try my hand at the matter, but I cannot do quite as well at answering as I might did I know your location and your management. How to manage our bees so as to secure the greatest yield of comb honey is a question of great importance to all those who are engaged in producing such honey for market, and for this reason we find many more articles on this subject than we find on other things, which, perhaps, might help us more, for comb honey is of little value unless properly finished or capped over. Therefore, the thing the questioner asks about, "how to manage our bees so as to have few uncapped sections in the fall" is to very many a question of as much or more importance than the one regarding comb-honey production, which has been written on for nearly half a century.

For years I was troubled by having from one-fourth to one-half of the combs in the sections not fully sealed, at the close of the honey harvest, which were salable only at a reduced price, if at all; but of late years I have but few of such, even in a poor season. After experimenting several years in the matter I became convinced that the cause of the trouble was in giving the bees too many sections; and especially conducive to this was the plan of tiering up sections late in the season. How often have I, years ago, spoiled a promise of an abundant yield of comb honey by tiering up four or five days before the honey-harvest closed. To tier up sections profitably requires considerable tact, and especially do we want a thorough knowledge of the honey-resources of the field we occupy.

Another thing, I have often thought there has been too much injudicious talk in our bee-papers during the past in regard to allowing the bees, under any circumstances, not to cluster on the outside of the hive, the idea being generally conveyed that when bees thus cluster out, they need more room. Now, that depends upon when this clustering-out occurs, whether more room is needed or not, and hence I said "injudicious talk." If the clustering-out occurs at the commencement, or in the very heart of the honey-harvest, then more room should be given, while, if at the latter part of the harvest, or in a time of honey dearth, no more room is needed, for more room at such times results in the one case in many unfinished sections, and in the other an absolute waste of time used in enlarging the hive. To illustrate:

During some seasons we have but a few days of nectar secretion, and that often after the flowers which produce the honey-yield in our locality are past their prime. At such times we often do not have half the surplus room on the hives which we would use in good seasons, and for this reason the bees begin to be crowded out before they have commenced in the sections at all. Hoping that the weather may be good during the rest of the time that the flowers are in bloom, we give double the room that they had before, only to have it soon turn bad weather again, thus giving us only part-filled sections in the fall, while, had we left them as they were, all would have been finished, and we and the bees have been happy.

"RED STAR APIARY," OF A. E. WILLCUTT.—See page 722.

My plan of operation to secure all capped sections or as nearly so as may be, when the season closes, is as follows: When the bees show by building bits of comb here and there about the hive, and by lengthening the cells along the top-bars of the frames, that they are securing honey from the fields, I put on sections to the amount of the smallest capacity of one of my surplus arrangements—or say 20 to 25 pounds—and leave them thus until the bees are fairly well at work in them, when I add more room to the amount of one-half that put on at first, if possible; and, if not, then the smallest possible amount consistent with the surplus arrangement I use, generally putting this last under the one the bees are already nicely at work in, if this room is needed during the first half of the probable surplus yield. When more room seems likely to be needed, by finding that the room now on is fully occupied, it is given by placing wide frames of sections containing full sheets of extra-thin comb foundation at the sides of those sections the bees are already at work in; or, if our surplus arrangement will not admit of doing this, by placing these same sections over those already occupied.

By working according to this last-named plan, the bees always have plenty of room so that they are never crowded, yet it is given in such a way that they will always complete all of the sections underneath or between, which were fully occupied when this latter room is given.

By the time more room is needed, the sections first given are ready to come off, when, as they are taken off, more room is given at the sides or top, as the case may be, and thus the bees are kept finishing sections the nearest over the brood-chamber and commencing in those furthest away. In this way the season will close with a minimum number of unfinished sections, instead of a maximum number, as is generally the case where the old way of tiering up is used.

I am well aware that we used to argue that by putting the empty sections between those already occupied and the brood-nest, the bees were incited to greater activity, and, as a result of this activity, a greater result in comb honey would be secured, but after trying both plans side by side for several years, I can see no difference in the yield of honey in thoroughly good years, while in from fair to poor years the plan above outlined gives much the greater yield of marketable honey.

Onondago Co., N. Y.

No. 2.—APICULTURE AS A BUSINESS.

Some Colorado Conditions—Average Yield—Prices and Outcome.

BY R. C. AIKIN.

I WANT the ear of all apiarists who are in apiculture to make it a business. I know there are a great many who have a few colonies to obtain honey for their own tables, others for recreation, and yet others who keep bees as a side-issue to some other business. Those who are playing with the bees need not read this discussion, but those whose motive is for either home consumption or for market, surely should consider the cost. I shall write mainly for Western conditions, and, for several reasons, principal among which are, 1st, I am more familiar with conditions here; 2d, more people in the West make a special business of honey-production; and, 3d, the Western apiarist has more difficult problems to solve.

As indicated in No. 1, not even in Colorado, where alfalfa, sweet clover, and cleome abound, do we have a *sure crop.* Every Eastern apiarist thinking of coming here to get the advantage of a field where he can have a honey crop every year, would better stop and learn if his ideas are right. My field, and the county in general, as well as other counties and localities in the State, have both alfalfa and sweet clover in sufficient quantities, so that either will give some surplus honey should it yield freely.

The trouble with alfalfa is this: Being in growth similar to sweet clover, a strong, rank plant, though not so large as the latter, if allowed to mature to the extent of getting into full bloom or any ripe seed upon it, the stems become hard and woody, so much so that stock will not eat these coarse stems unless forced to do so by very scant feeding; hence, the rule is to cut for hay just as the bloom begins to appear. In this latitude and altitude, spring is a little later than southern Iowa, central Illinois, Ohio and Indiana, probably about two weeks. The southern parts of this State will be from 2 to 3 weeks earlier than here, and lower altitudes in the same latitude will be earlier.

Alfalfa delights and grows rapidly in a moist but not wet soil. A big rain or an irrigation that fills the soil with moisture puts it in prime condition for rapid growth in hot, sunny days. Our altitude—5,000 feet here—causes cool nights, many nights in April coming close to frost, even in May being quite cool. The fact is, that, as a rule, all the year through we have cool nights, and, often, some frost appears in places almost every month. However, while the nights are cool the days are warm, the rapid and extreme changes in temperature between midday and midnight being much greater than in lower altitudes. In May and June the days become quite hot, and then the alfalfa "gets a move on it" and grows rapidly. In my locality it comes into bloom sufficiently to begin yielding nectar averaging the date of June 15, ranging from the 10th to the 20th.

About the time the first blossoms *begin* to appear on the alfalfa, then begins haying. On account of the large acreage haying continues for three to four weeks, and by the time the last fields are cut they have attained just about full bloom, hence we have had from one to two weeks of fair honey-flow from this source—the *only* bloom and source at this season. I say *fair flow*—alfalfa seems to be a spare yielder. I have never known it to give the rapid yields obtained from white clover and basswood, especially the latter. This slowness of the flow and the limited time of its duration, often find us with the brood-combs filled and possibly just a start in the supers, and also the swarming-fever on, when the first flow is about over. So far as the great and vast acreage of alfalfa is concerned, you see it has gone into hay, a very small percent of it ever maturing to sufficient bloom to yield *any* nectar. As soon as the first cutting of hay has been finished, the mower begins where it started first, for in June and July the growth is so rapid with favorable seasons I have known the second haying to be done in 30 days after the first, though usually a longer time intervenes. Unless delayed, the farmer never lets his *hay* alfalfa bloom.

But there are the fence-rows, ditch-banks and here and there scattering strips and plants that continue in bloom. Also, there are fields of alfalfa sod broken and put to wheat. The heavy, tough alfalfa roots are *very* hard to cut with a plow, and usually enough of these escape the plow by slipping by it, in spite of three and four horse-power, to make quite a growth of alfalfa in the wheat-fields. This wheat-field bloom is necessarily scattering, a field here and there, and thin in the field, so our flow from this is seldom at all free.

The last of July and the main part of August is wheat harvest here, more being harvested in August than in July; but, bear in mind that these dates vary with latitude and altitude, but in relation to each other and general application to apiculture, the principles and facts apply. In some localities and some seasons there are variations that make different results. In some places there is quite an acreage of alfalfa run for seed-crop, and this, of course, must be allowed to mature its bloom and seed, and happy indeed is the apiarist who gets such pasture for his bees, for from the beginning of the bloom to the maturity of seed is several weeks, ripe seed and bloom being on the plant at the same time, more so than red clover, but not so much as sweet clover.

You see, under these conditions we watch anxiously for the beginning of alfalfa nectar June 15, and hope and wish for a scarcity of grasshoppers and for favorable nectar-secreting weather, and hope the farmers will not push haying too rapidly.

Right with the first alfalfa flow comes swarming. The colony that swarms during the first two weeks of the flow is almost sure to do so before the first super is full, many before it is even started. Now see the drooping hopes of the apiarist—super work only just getting started, bees swarming, and, worst of all, the bloom and source of nectar rapidly falling before the mowing machines.

It will be about July 15—one month from the beginning of alfalfa bloom—before sweet clover comes on. Having failed of any paying surplus from the first flow (and this is common), we watch anxiously for a strengthening or continuance of the flow from the sparse, scattering alfalfa in the corners and wheat-fields, and for the opening of sweet clover. If the scattering alfalfa has kept up a slow flow that requires the most strong and vigorous colonies and careful management to obtain at all fair results in finish of comb honey, we are fortunate, and then if sweet clover comes on with a fair yield added to the other, we may get supers filled at the rate of about 1½ to 2 pounds daily—say a super every two to three weeks on very strong colonies, and one in three to six weeks on the more medium colonies. Contrast this, if you will, with getting a hundred pounds surplus in a two to four weeks' flow, and any experienced apiarist knows such conditions will not give good finish, and satisfactory and profitable yields, without the best of management. For ten years I have had just such experiences almost constantly, slow and intermittent flows, in duration from about June 15 to August 15, and in quantity from a 10-pound surplus to almost a hundred-pound yield. I recall from memory such yields as 10, 20, 25, 40, 75 and 80 pounds—an average yield for 10 years of about 40 pounds.

Here I must state that such yields have not been obtained where swarming and much increase have been allowed. My yields for my locality, as herein given, have been far in excess of the average bee-keeper in this vicinity, or even in this county and adjoining ones. I do not allow swarming, nor much increase of colonies by any method. The average yield for the past ten years in this county, in the hands of any but those having more than average knowledge of the business and necessary facilities, I think has not exceeded 20 pounds surplus. Now let us see where this places the investor.

I have in mind a lady who has recently purchased a lot of bees at $5 a colony. Ten percent interest on this capital stock is 50 cents a colony. We will put taxes and interest both at 50 cents. In this county, sections, and foundation for the same, cost a cent a pound and upwards on the product. Let us see if I am correct. Sections in large lots—20,000 to 50,000—may be laid down here at about ¼ of a cent each; foundation ordinarily at close to 50 cents a pound in 25 pound lots, and one pound supplies full sheets for 100 sections. It costs something to put foundation into the sections, say, on an average, one person with another will put up about 1,000 sections a day, and at from one dollar to two dollars a day, let us call it ⅛ of a cent. There is always a slight breakage in the sections, but the greatest shrinkage is the unfinished sections at the close of the season. It is, indeed, a careful management and bottom prices that will produce section-honey so that the cost of the sections and foundation is kept within a cent a pound. I buy sections, foundation and cases cheaper than does the average apiarist, yet I never estimate for these items less than 2 cents a pound as the cost per pound on cased comb honey aside from the labor of scraping, and with many apiarists it costs 2½ cents a pound, easily.

Let us take the average price of comb honey here for the past ten years. One year I got $1.45 a case, again $1.75, still other times such prices as $2, $2.25, $2.30, $2.60, and $2.75. This makes an average of $2.14 a case. The past ten years the average has not been far from $2.20 for No. 1 honey, and 25 to 30 cents less for No. 2. Now, the lady who has purchased bees at $5 per colony is not an expert—is not

even a practical apiarist. We will suppose she is able to obtain more than my estimated yield for the county, which I have put at 20 pounds for non-experts, say she obtains a case to the colony, and gets it all No. 1, she has, after deducting interest and taxes on capital invested, $1.70 a colony. If she has 100 colonies she has $170 as returns, and she to do all the work.

But, hold on, it is necessary to have a honey-house to carry on this business, and this, too, costs something. It also costs something to get the honey delivered to market. A smoker and other tools are needed; these all add to the cost or capital invested, upon which we must have returns, and the stock should bring again, at ordinary sale, the first cost. "Bee-fixins" if sold at forced sale, such as administrator's sale, or if the owner desires to "unload" and quit the business, ready-cash purchasers are not lying around waiting for these things at first-cost prices. The average apiarist does well to get half first cost of stock. I care not whether that stock be purchased or produced. To buy stock and then increase, the owner supplying new hives and labor to get the increase, this same increase always costs all we can get for it, unless possibly we put it into 5 or 10 cent boxes, and even then there is no profit in producing stock. Bees and bee-fixtures as an investment, are of little value. Put your money into real estate, and if you get ten percent dividend, you are fairly safe; but a dollar in such perishable and uncertain stock as bees is *very* poor investment indeed unless *that capital outlay can be made back quickly from the product or income from the stock.* Count your stock as nothing, your income as everything, and the income to pay back the capital invested and all running expenses, and pay the apiarist for his time employed. Any other basis of calculation in the bee-business is not safe. Larimer Co., Colo.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Moving Bees.

1. I wish to move several colonies a distance of 30 or 35 miles, either by rail or horses. They are packed for winter on the summer stands, are in 8-frame, staple-spaced hives, with four inches of packing all around and chaff on top the depth of the supers. The cases are the same size as the stand. If I leave the hive-entrance open the full width, and fasten wire-screen over the case, entrance, and to hive-stand, would top ventilation be necessary if moved now or in March?

2. Would frames need fastening if moved on bob-sleighs?

3. Would they have to be moved at night during cold weather?

4. Would it be safe to move them now, or would they do better moved toward spring, say February or March?

NEW YORK.

ANSWERS—1. Something depends on the kind of bottom-board and entrance. With a deep bottom-board and a large entrance, there would be no need of top ventilation. With an entrance less than three or four square inches there might be danger to a strong colony.

2. Staple-spaced frames, or any fixed-distance frames, ought to need no fastening.

3. They could be moved in daylight.

4. While they might be safely moved now, there might be some advantage in moving them in early spring. The combs would be lighter then and less likely to break. There would be fewer bees present, so less danger of smothering. Some think it important that bees should have a chance to fly soon after being moved, and they would probably be able to fly sooner in March than in December.

Queens for Breeding Purposes.

I have a lot of queens all reared from the same mother; of course, the mother's bees are nicely marked and are fine gatherers. But one of the young queen's bees show to be very finely marked and are extra-fine gatherers. Now, if one of the queens had to be used as a breeder—the young queen just mentioned or the mother—which would be the better one to use? If the young queen is used as a breeder the drones will be principally of her sisters, and if the old queen is used as a breeder the drones will be of her daughter.

2. Now, if you think I would better get a new queen to breed from please let me know where I can get one that is second to none in every respect. SOUTH CAROLINA.

ANSWERS—1. Your question is not an easy one. The rule that has been generally given is to breed from the best. Mr. F. B. Simpson, who seems to be unusually well informed in matters of breeding, says that instead of breeding from a queen whose workers are phenomenally good, it is better to breed from one which is only a little above the average, providing the breeder is from a mother whose queen progeny are nearly uniform in character, the general average being good. In your case I think I should risk breeding from both the old and the young queen. The drones prevailing in the apiary, as you intimate, will be the sons of the sisters of the young queen, and will be practically of the same blood as the young queen. Assuming that these are the drones that will be used, if you breed from the young queen, her daughters will meet drones that have half the same blood, practically, as themselves. If you breed from the old queen, her daughters will meet drones practically of the same blood as themselves. The assumption, however, that the said drones will be the ones used, is, in most cases, not very reliable. The drones from surrounding apiaries within a radius of a mile or more must be taken into account.

2. It depends much upon the character of your present stock as to whether or not it may be a gain to get a new queen. If your stock is not good, you could improve by fresh purchase. But I could not direct you where to purchase, and for two reasons: It would hardly be fair to the other advertisers of any bee-paper to have one special breeder pointed out as the one from whom purchases should be made. In the second place, even if the publishers should allow it, I could not tell you where to get the very best, for the simple reason that I don't know. There are, no doubt, many who are trying to rear good queens, and it is possible that a large portion of them may be nearly on equal footing.

Arranging the Hives in an Apiary.

I am going to move 100 colonies of bees to the country this winter. How would you arrange them? I will have plenty of shade and ground. I want to avoid the loss of virgin queens as much as possible. ALABAMA.

ANSWER—With plenty of ground, you could place them regularly in rows a rod apart, each hive a rod from the nearest. That would make it all right for the virgin queens, but it would make it very inconvenient for the bee-keeper. In order to get at a satisfactory answer, suppose we talk the matter over a little. It is not so much the distance between hives that allows a bee to find its own hive as it is other things. Set a hundred colonies of bees in a row on a perfectly level plain, not a tree, bush, stump or anything of the kind in sight, and if the hives are a rod apart there will probably be more danger of bees getting into the wrong hive than there would be in a dense, natural grove with the hives only a foot apart. Let two hives be placed touching each other, and if no other hives are about there will be no danger of bees getting into the wrong hive. Have two nuclei in the same hive with entrances facing the same way and only six inches apart, and there is little danger that the bees of the right side will enter the left entrance.

Understanding this we can take advantage of it in placing our hives. Where shade is plenty, as you say it is in your case, there are trees present to help mark locations, and there would be little danger of confusion if hives were placed singly six feet apart. Suppose we place them so. As already said, there is no danger of mistake if two hives are set close side by side. So by the side of each hive already placed let us set another hive. Now put back of each pair another pair, back to back. That is, the backs of the second pair are placed against the backs of the first pair. Now we have our hives placed in groups of four, and if there is any mistake as to entering wrong hives, it will not be that any bee enters a wrong hive in its own group, but that it will enter the hive corresponding to its own hive in another group. This method of grouping I have used for years, and you will see that it allows you to have 100 colonies on a given piece of ground with just as much safety as though you had only 25 placed singly on the same ground.

Bees that Sting Intermittently—Swarming—Transferring.

1. I have a few colonies of bees I bought one year ago I robbed them the last of June and got 17 pounds of comb honey per colony; and again the last of July I got 26 pounds of comb honey per colony; but the last time I robbed them they all fought and stung me awfully. Now I want to know why they all fought me so the last time I robbed when the first time I did not get stung at all? How can I manage to avoid stings in the future?

2. When is the best time to rob the bees?

3. Why did I have so few swarms this year?

4. When is the time to transfer? ALABAMA.

ANSWERS—1. The great probability is that when you took the honey from them the first time in June that they were at that time gathering honey freely, and at such times they feel quite good-natured and liberal, caring little how much honey you take away. When you attempted to repeat the operation the last of July, it is likely they were getting little or nothing from the fields, with plenty of time and disposition to resent any purloining of their hard-earned stores. Even if they did considerable storing afterwards, there may have been a lull in the harvest the latter part of July. It is also possible that you were not quite so careful the second time about exposing honey so as to attract robbers. If you do anything with bees in a time of scarcity, avoid having hives open longer than is absolutely necessary, and take great pains not to have supers of honey exposed to the robbers. It may also be a little safer to work late in the day, so that darkness coming on may close the efforts of any bees with ambition to obtain a reputation as highway robbers.

2. Better take away all surplus as soon as the flow ceases, or as soon as they gather no more than suffices for their daily needs. Something can be told about this when you find that the amount of honey in the supers is not on the increase, and at such times the very fact that the bees are unusually cross and inclined to rob may make you suspect that they are not gaining in stores.

3. Very likely the character of the season had something to do with their not swarming, although other causes may have prevailed. Without knowing any more particulars, it would be pure guessing to say what.

4. You may transfer in fruit-bloom, or three weeks after the first swarm.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

USING THE ENGLISH LANGUAGE CORRECTLY.

You might not think it, but a single line of Prof. Cook's, on page 698, has sent me off into a brown study of many minutes—minutes that I can hardly afford when I'm so crowded that there's scarcely a minute to spare. One of the hardest jobs I've ever tackled is the one of trying to use the English language correctly. And in my brown study I've gone over a good deal of the whole ground of getting the little or much that I know of spelling, punctuation, pronunciation, choosing the right words, putting them in proper order, etc.

As to spelling. I was brought up under the old regime—stood up in a row and "trapped to the head" as often as I could, or "spelt on sides," and was always one of the first chosen—and so I'm rather proud to say that I'm exceptionally familiar with our present system of spelling, and ashamed to say that I can do so little to prevent the rising generation from going through the same drudgery that I did in mastering a spelling that is a disgrace to a civilized nation.

Punctuation—the whole thing is more or less a mystery to me, and about the most I attempt is to sprinkle in a few commas here and there so the printer will not take exactly the opposite of the intended meaning: and then I look up to him as a superior being who will put in semi-colons and things in the right places, so that other people can understand what I'm trying to say.

It would make a book of no small size to tell all the tribulations I've been through in trying to learn to pronounce correctly. The times that I've consulted the dictionary! And the worst of it is, that I'm not sure of speaking ten consecutive sentences to day without mispronouncing some word or words. When to the difficulty of pronouncing correctly is added the difficulty of choosing the right words and using them in the right way, I give up in despair. I have no hope of ever learning to use the English in a faultless manner. But I am by no means in despair as to improving. I'm not as bad as I was a year ago, and not nearly as bad as I was 25 years ago. I'm willing—I'm anxious to learn. I consult the dictionary oftener than ever before. There is no surer way for a friend to command my gratitude than to call my attention to some error in my use of the English language.

And now Prof. Cook wants me to act as arbitrator between him and that man Hasty. He wants me to say whether "larva" or "worm" is the right name for the thing that destroys our nice combs when we neglect them. Frankly, I don't know. But having made this confession of ignorance, I want to emphasize in the strongest manner the fact that I believe we should constantly be striving for a single name for each idea, and a single idea for each name. We may not achieve that in the present generation, but we ought in general to speak and write in such a way as to have little fear of having any one draw the dictionary on us.

One trouble in the present case is that Prof. Cook speaks as a scientist, and our sprightly "afterthinker" as a layman. An entomologist could hardly be forgiven for calling that which hatches from the egg of a bee a worm: a bee-keeper would not be likely to call it anything but a "larva;" but the average person who knows nothing about bee-keeping would be very likely to call it a worm. And the dictionary would justify him. For the dictionary says a worm is (third definition): "In popular and archaic use, any creeping or crawling animal, whether large or small, as a serpent, grub, caterpillar, or the like." That same definition justifies Mr. Hasty in calling the larva of the bee-moth a worm. Prof. Cook is saying that an added syllable should not stand in the way of correctness. Mr. Hasty may reply that several syllables must be added if we would not be misunderstood. If we should say, "I lifted a comb out of the hive and found in it hundreds of larvæ," he would be understood to be speaking of young bees. "Hundreds of worms" would be understood correctly, and is very much shorter than "hundreds of larvæ of the bee-moth." Then think of the difference between saying "wormy combs" and "combs infested by the larvæ of the bee-moth."

Prof. Cook has scientific accuracy on his side. On the other side is economy of words and a dictionary definition. Gentlemen, please settle it between you. C. C. MILLER.

McHenry Co., Ill.

"HOME, SWEET HOME."

What a picture we have in that home of the old patriarch, Jacob, which we have had in the Sunday-school for the past two Sundays. Jacob commenced life in a bad way. If any one thing savors more of heaven on this earth of ours than another it is real accord among children of the same home. If any one thing smells more of perdition it is hatred and meanness among the boys of any household. Jacob's lying and imposture to cheat Esau was morally as black as blackest night. No wonder his later years come full burdened with sorrow. Then, too, polygamy came to blight his home. What a sorry blot that would be in any home. Glad we have wiped it from our body politic. One *favorite wife*. Only to think of the sore feelings and bitter heart-aches that would come into any home when a favorite wife held sway. She must be favorite or there never would have been but the one. How the record states plainly that she was favorite.

I am superlatively glad that Roberts was pushed from his seat in Congress. The home circles of our country should always frown on anything that tends to mar the home or lessen family accord. Let it be known that of all Jacob's sons Joseph was the favorite. What a blunder! The parent who has favorites or shows favoritism among his children should never have had a home. Yes, I know children differ, and some are lovely and wise, and some are otherwise. Then what a privilege has the parent of taking the less fortunate so snugly in the arms of his love that the unloveliness will be surely squeezed out—all out.

Joseph was exceptional in manly strength and beauty; was alert to get the most out of life and experience; was a very Hercules in moral strength and rectitude; yet even Joseph in such a polygamously tainted household could not pass unscathed. His very ambition and confident ability, no doubt, gave rise to the dreams. His warranted belief in his own power and strength, aided, maybe, by his ambition, gave him visions which made possible a right interpretation of the dreams. How lovely it would have been could he have kept the

dreams and their meaning to himself. But, no, he must tell. I fear the show of boasting may have been present to sting the already jealous and sensitive brothers. He could but have noticed their unrest and displeasure at the narration of his dream. Was it kindly, then, or modest, for him to tell of the second dream? The less was this true in that it reached to the father who was to become subject to the son. Surely, those wicked brothers—and they were horribly wicked—were in the way of some potent influences which must have fed and nourished powerfully the rancor, hate and jealousy that resulted so disastrously.

Joseph's misfortunes certainly developed in him a character magnificent almost beyond compare. That the brothers were won in part from their evil thoughts and practices is as surely true. Maybe many of us are most fortunate in the irritating, vexatious, experiences that come to torment us.

THE SUNDAY-SCHOOL.

I find a rich treat in the Sunday-school. My father always went with me to Sunday-school. He was for years the superintendent. I early learned to love the study and discussions. How different it might have been had not my father cared for these Sunday privileges. Nothing could keep father away. How could I but learn to respect this service? I have always followed in my father steps. My children were the companions of myself and wife as we almost invariably went each Sunday to study that masterpiece in all literature.

Today my son teaches regularly a large class in a large and influential Sunday-school. A little son has just come to that home. How happy I am in the thought that "Little Albert" will grow up to attend and love the Sunday-school and all the blessed teachings that it hands over to its patrons. In just such influences lies the safety of our children. Such teachings give to our nation a grand citizenship. We stand appalled before the dastardly act of the anarchist. Anarchy can not even sprout in the blessed seed-bed of the Sunday-school.

I am teacher of a large Sunday-school Bible class of over 30. There are seldom less than that number in the class. Yesterday we had a gentleman and his wife with us who are not wont to come. The father told me that he did not know it was so interesting. He assured me that they would come regularly. I am rejoiced. They have three bright boys. One, the oldest, a very promising boy in many ways, with two other boys, ran away last year, and were gone, to the great sorrow and agony of the parents, for days. The Sunday-school does not favor such escapades. It is almost sure to replace any wish to do so with a better ambition. But if we wish our children to love and benefit by the school we must love and benefit by it ourselves. We often need its beneficent influence fully as much as do the dear children.

Oh, how glad I am that my father loved such things! How richly have his tendencies and habits in all these good ways taken hold of my own life, and, through me, they have been passed on to bless my children and my grandchildren. Can we do a more patriotic thing than to go each Sunday with our children to a good Sunday-school?

A MINING TOWN SUNDAY-SCHOOL.

As a child I was never strong. While I remember my college life as most delightful and as the best part of my whole life, my poor health, however, was a constant menace to its continuance. So this life was not all roses.

I stepped from college much broken in health, and came to California to mend it. I secured a school in a rough mountain town. There was no church there, and so far as I know I was the only professed Christian. The children, however, were just as interesting as others, and, I thought, full of promise. Sunday was the busy day. Stores were all open and business was at its flood. Drunken brawls were very common on Sunday. I at once started a Sunday-school. The mothers—bless the mothers—and the children, largely came. Only one man. He loved music, and played the little organ which he loaned each Sunday. It was a good Sunday-school. I know it did good. I desired a library. The day-school director, also the leading merchant, came to me one evening. He said he had heard how interesting the Sunday-school was; wished he could come, but, of course, he couldn't. Asked if he could be of service. I suggested the need of a library. He said "You shall have it." He inquired the amount of money needed for the purchase. I said anywhere from $50 to $1,000. The next day "A Sunday-School Ball" was advertised. I was invited to the ball, and did look in. We received over $200 and an excellent library. I feel sure that Sunday-school added to the sum total of the world's happiness, and I know that better citizens were the result of its influence and teachings.

Reader, may not you be able to work in the same way?

GENERAL ITEMS

Bees in Fine Condition.

The weather is fine with bees flying nicely, and gathering pollen yesterday. Honey was a very light crop through this part of Wisconsin the past season. My bees—84 colonies—go into winter quarters in nne condition, although I had to feed some 20 to get them so. L. G. BLAIR.

Grant Co., Wis., Nov. 2.

Honey Crop Short.

The bee-papers seem to strike snags in estimating the honey crop. In this locality it is short; and this locality embraces the territory in Pennsylvania and New Jersey about the famous Delaware Water-Gap. We have calls daily for honey, and some of them come from considerable distances.

I handle the bees for my son—I do most of the "chinning," and he most of the smiling. But about that honey crop: We started last spring with 11 colonies, increased to 17 by natural swarming, and averaged 39 pounds of comb honey, spring count. A wet spring brought an abundance of white clover, but a drouth followed and killed it. Buckwheat came on at a 2:40 gait, and the frequent rains wiped that out, so that the bees did not get in over a good week's work; they were just fairly started when their hopes were blasted. We, with others, had great expectations, and prospects were unusually bright for awhile, but the pulling in wimble-womble failed to work—we counted the chicks a little too soon.

We are right proud of a certain queen we bought. We couldn't catch the little black vixen, so we appropriated her brood and young bees, and started our new queen on her way rejoicing. All the little blacks are gone now, and the yellow ones are pushing. They are gentle as kittens, and seem very energetic. We wish all the other colonies were as gentle.

Now, say, let's have a little gossip behind the door. Wonder what's become of A. I. Root's trap-nest. Wonder if he won't blossom out next with a rooster having a pencil over his ear, and a tablet to keep tally, raising a racket with some old biddy that disputes his account; and, then, again, how would he decide the matter? But I believe he would get the feathers all smoothed the right way, don't you? A. C. HUNSBERGER.

Northampton Co., Pa., Oct. 28.

Season a Failure—Bee-Management

My bees were a total failure the past season. I got practically nothing—just a few scrawny sections from 130 colonies. This is a jacklime (?) country, and nearly all soil is sand, and nearly everything was dried up by the hot weather; still the bees gathered enough for winter. I have used the screen-wire in the center of the bottom-board for two years. I think it is a grand thing, especially in swarming-time and in winter, that is, if you put them in the cellar.

This is the way I run my bees for honey and increase: As soon as I see that they are getting pretty strong in the spring, I prepare a hive-body with a queen-excluder nailed to the bottom. I put this body on a medium colony. Now, as fast as I can find drone-comb sealed up, I take it out and put it in my prepared hive, boring a ⅜ inch hole in the back, so the drones or bees can come out. I use a drone-trap on this as soon as the drones hatch out; then if I have an extra queen-cell I put it in here, and as soon as the queen hatches I take away the trap.

Now, my theory is, that by taking out

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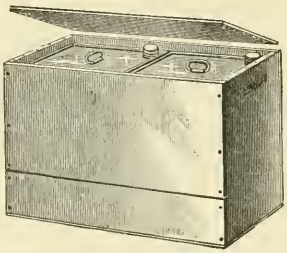

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I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more marked flavor, according to my taste. C. C. MILLER.

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Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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nearly all the drones, and making a hole from 4 to 6 inches square in the center of the bottom-board, with wire-cloth nailed on both sides, they keep cool and travel upward into the sections. If there are many robber-bees prowling around simply make small entrances.

Oscoda Co., Mich., Oct. 21. C. CRANK.

Report for the Past Season.

I have 38 colonies at present. I wintered 18. The bees did well the forepart of the season, but it got too dry in July, and has been ever since. I sell my honey for 15 cents a pound, and can sell all I have. I sell to the consumer only. I will have about 1200 pounds this season. I have very good bees.

G. W. KREAMER.

Audubon Co., Iowa, Sept. 1.

White Snake-Root—Poor Season.

What is the name of the enclosed flower? I think it is sweet clover. The bees work on it, and as it is a very late bloomer it must be valuable for honey. The first I have noticed was this year.

My bees have done very poorly—have not as many colonies now as I had in the spring, and from 50 I have not received enough honey for home consumption.

R. N. CRAFTON.

Cherokee Nation, Ind. Ter., Oct. 22.

[The flower in question is not the sweet clover, but the white snake-root—Eupatorium ageratoides—and belongs to the Composite family, as the great majority of our late flowers do. In previous reports we have taken occasion to say that nearly all the composite flowers produce honey to some extent, and while we can give no definite reply as to the quality of this particular species, yet, if the bees take kindly to it, they are doing better on it than they could elsewhere.—C. L. WALTON.]

Report for the Season of 1901.

I put six colonies into winter quarters last fall, but some of them were weak last spring. I increased to 12 colonies by dividing, besides having some natural swarms, so that I now have 19 colonies in a tolerably good condition for winter. I got between 500 and 600 pounds of first-class white clover comb honey, which I can readily sell at the house for 15 cents per pound.

I had two cases of drone-laying workers this season, from queens that the bees reared in the colonies I divided. I killed them, and gave them other ones. I had one case of a drone hatching out of a good-looking queen-cell; I am sure it was a drone, for while I was examining that colony I killed it. I had one colony that I made last spring by dividing, that has filled the hive and given me two supers of honey, and now the third is all but full.

I am well pleased with the American Bee Journal, and the information I have gotten from it; I will not give it up as long as I keep bees. JAMES H. KNOTTS.

Preston Co., W. Va., Sept. 15.

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Tested Queens.

A question that will some of these days need to be supplied with a new answer is this: "What is a tested queen?" The answer *hats been*, "A queen whose three-banded workers show that she is pure Italian in origin and mating." But since the entrance of five-banders, as the editor correctly says, page 790, there may be black blood in a queen which produces three-banded workers. That knocks out the old answer. What shall the revised answer be? Don't ask me. I don't know.—[This is one objection to the rearing of five-banded bees. But that objection would have no weight with me, providing I could see in color greater longevity or more pounds of honey.]—EDITOR.—Stray Straw in Gleanings in Bee-Culture.

Rearing Queens in Nuclei Without Cessation of Laying.

B. Beuhne, in the Australian Bee-Bulletin, after telling of failures in introdueing queens in the usual mailing cages, says:

I next tried the nucleus plan. Starting a nucleus alongside the colony the queen of which was to be replaced, and after the young queen in the nucleus had commenced to lay, I removed the old queen of the hive and united colony and nucleus. Observing the usual precautions of uniting I never had a mishap; but the drawback was that it required the operation of making a nucleus to be gone through for every colony so requeened. To avoid this I established a number of permanent nuclei, and whenever I wanted a queen I went to a nucleus, took out a frame with queen, brood, and bees, and inserted it into the place of one received from a colony, and together with the queen it was given to the nucleus, where the queen could go on laying till the young queen emerged from a cell given it. I may here state that when a queen is more than two years old I do not remove her when giving a cell (in a protector), and in three cases out of four the virgin queen will take no notice of the old queen, and in due course commence to lay, when she may be removed and another cell given. Thus the nucleus is never queenless, and gradually increases in population.

In some cases I have had two and three old queens in a nucleus all laying on the same combs. The jealousy so marked in a young queen is quite gone after the second season, and such a queen is not considered a rival even by a virgin queen. On this point doubts of the correctness of this reasoning have been expressed to me, and to anticipate such doubts I may state that I have proved the point by ocular demonstrations to many beekeepers who have visited my apiary, and who can bear out my contentions.

Bees on Shares.

Contrary to the advice of some of the sages of bee-culture, a great many people in Colorado are working bees on shares, and getting a start in the business without any great cost to themselves aside from their labor. And this chiefly follows from the fact that there are a number of retired apiarists in the State. Yes, men who have actually accumulated a competency from the production of honey. Another class, owners of bees, but unskilled in their management, lease their bees to practical apiarists, and make a handsome percentage on their investment.

In the Eastern States, where bee-keeping is about as certain to prove remunerative as rain is to fall on the Mojave desert, and where winter losses are sometimes appalling, both parties are apt to be disappointed and dissatisfied (especially the owner of the bees), and trouble is liable to follow. But in the irrigated portions of the West, where reverse conditions prevail, things generally go along smoothly, provided both parties observe the letter and spirit of their agreement.

In taking bees on shares, the Journal, in all cases, advises its readers to have a written contract, covering every feature of the agreement and providing for every probable contingency that may arise. This precaution should be taken, no matter how honest and good-intentioned the parties may be; the chances for misunderstandings and consequent trouble will be reduced to a minimum; and, besides, it is business.

The share given for the use of the bees varies according to conditions. Where a few colonies are picked up here and there and managed with another outfit, 15 pounds per colony is considered a fair compensation, if the season is good, and less if it is poor.

Where entire apiaries are leased, including all necessary fixtures and ground furnished for apiary, the lessee performs all the labor, charges the owner with half the expense of sections, foundation, shipping-cases and new hives, and at the end of the season the proceeds are divided; that is, each takes one-half of the honey and one-half of the increase. It is usually stipulated that the share of honey belonging to the bee-owner shall be delivered to him cased, graded and ready for market.

The Journal will sum up the matter by saying: If you can not get a start in bees in any other way, take them on shares. But if you can borrow money, even though you have to pay 15 to 25 percent for it, better do that and buy your bees outright. You would gain financially in an average season by the latter plan.—Rocky Mountain Bee Journal.

An Aid in Setting Foundation.

In placing foundation on the wires in brood or half-depth frames, I find that the imbedding can be done much better with the small toothed wheel, used for the purpose, by doing the rolling over a block or board covered with burlap. A piece of tapestry carpet reverse side up, would answer. This is much better than rolling on a board. I cut a board just big enough to fit in the inside dimensions of an empty frame, and stretch the burlap over it, tacking around the edges with two or four ounce tacks; nail this board on a wider piece. After the foundation is secured in the slotted top-bar of the frame, the latter is placed over the "form" or block, and the rolling done as usual.—M. F. REEVE, in American Bee-Keeper.

The Colorado Convention, to be held at Denver, Nov. 18, 19 and 20, promises to be one of the very best ever held by that excellent Association. In connection with the interesting program, a summary of which appears on page 675, Secretary D. W. Working has since sent us the following, which must prove of special interest to our Colorado readers:

Prof. Gillette will be prepared to measure "long tongues," and show them under the microscope.

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☞ No foreign subscribers can take advantage of these combination offers.

We shall be pleased to have our readers examine carefully the above list, and send us their subscriptions. Address,

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Alfalfa, as is well known, is a great honey-producer. As under irrigation it produces several crops a year, with bloom with each crop, the bee-farmer who locates his hives of bees among alfalfa fields is sure of a large honey crop.

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is also scientific and devoid of the element of chance. **Crops are sure, yields larger, quality better,** and prices higher, with no risk of wet weather damage in harvest.

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it is possible to get a well-irrigated farm possessing the requisites of **abundance of water, rich soil, home markets, good society, etc.,** for little money and on easy terms.

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Homestead Land and Irrigation Company,
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JAS. W. WILSON, Manager. Please mention Bee Journal when writing.

rado cover, offered by the Colorado Honey-Producers' Association.

5. Best 10 sections white honey—1st prem., $2; 2d prem., one Daisy foundation fastener, offered by Barteldes & Co.
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12. Best display of comb honey—1st prem. one Rauchfuss section-press, offered by Rauchfuss Bros.; 2d prem., one platform scale, offered by the Colorado Honey-Producers' Association; 3d prem., one annual subscription to the Rocky Mountain Bee Journal, offered by H. C. Morehouse.
13. Best exhibit of bees in observatory hive—1st prem., five K. D. Colorado dovetailed hives, offered by the Colorado Honey-Producers' Association.
14. Judges' premiums—One swarm catcher and one Lewis section-press, offered by the Colorado Honey-Producers' Association; seeds worth $1.50, offered by the Lee-Kinsey Implement Co.; one annual subscription to the American Bee Journal, offered by George W. York & Co.; one annual subscription to the Rocky Mountain Bee Journal, offered by H. C. Morehouse; and a number of special premiums, which can not be definitely announced at this time, are reserved to be awarded at the option of the judges for creditable exhibits not named or not adequately recognized in the foregoing list.

RULES AND CONDITIONS.

1. Every article which wins a cash premium shall become the property of the Association, to be placed on exhibition in the Association's case in the rooms of the Board of Horticulture. Other exhibits remain the property of the exhibitors.
2. No article may compete for more than one premium. For illustration, a case of honey entered for premium No. 1 may not be included as part of a display entered for premium No. 12.
3. No honey shall be entered for a premium unless produced by the exhibitor.
4. Exhibits may be entered at any time during the first day of the session, Nov. 18, preferably during the forenoon. Persons desiring to send exhibits to Denver by express may send them to the Colorado Honey-Producers' Association, 1440 Market street, and they will be properly entered.
5. Only members of the Colorado State Bee-Keepers' Association may compete for premiums; but any bee-keeper desiring to do so may enter exhibits by joining the Association at the same time. The membership fee is $1.00.
6. Honey entered for premiums numbered 1, 2, 5, 6, 8 and 9 must conform to the grading rules of the State Association. No. 1 honey will not win the premium offered for No. 2. Any prospective exhibitor may have a copy of the rules for the asking.
7. Exhibits are to be entered by number, and known only by number until after the premiums are awarded. Entry cards will be furnished and filled out by the secretary.

The exhibition, with cash premiums offered by the Association and special premiums offered by its friends, is a new feature. The pity is that it could not have been announced

three months ago, so that the best honey could have been saved for exhibition. Members are urged to make the best possible use of the opportunity offered, to bring the best honey and other products typical of our industry, and to prepare their exhibits so that they will show to the best advantage. The place of our meeting will assure us a large attendance of bee-keepers and others interested in bees and honey. The premiums are worth contesting for because of their value. The honor of winning will be worth more than the premiums themselves. The judges will be chosen with a view to secure absolute fairness, as well as ability to judge justly.

D. W. WORKING, *Sec.*

CONVENTION NOTICES.

Chicago. — The executive committee of the Chicago Bee-Keepers' Association has ordered that the next meeting be held all day and evening, Dec. 5, 1901, at the Briggs House club-room. This is arranged on account of the low rates to be in force then for the International Live-Stock Exposition in Chicago at that time (Nov. 30 to Dec. 7), being one fare plus $2 00 for the round-trip This notice goes by mail to nearly 300 bee-keepers near Chicago, and should result in the largest attendance we have ever had. Dr. C. C. Miller and Mr. C. P. Dadant have promised to be present. Let all come.

HERMAN F. MOORE, Sec.
GEORGE W. YORK, Pres.

Colorado — The Colorado annual meeting promises to be a genuine success. The program has been made out for a number of weeks, and is almost ready for publication. It has come to be a privilege and an honor to read a paper before our Association, and so very few decline who are invited to write or speak for instruction. One paper is already in the hands of the secretary. On two or three nights a big magic lantern will illustrate talks by famous students of bees and the bee-industry. And then we are going to have an exhibition of the choicest honey in the United States (made in Colorado, you know), and wax, with bees enough to show "how the thing is done."

If you want to know more, or have forgotten the dates (Nov. 18, 19, 20), write to the undersigned, box 432, Denver, Colo.

D. W. WORKING, Sec.

Minnesota.—The Minnesota Bee-Keepers' Association will meet in Plymouth Church, Cor. 8th St. and Nicollet Ave., Minneapolis, Minn., Wednesday and Thursday, Dec. 4 and 5, 1901. Mr. W. Z. Hutchinson will give a stereopticon lecture on Wednesday evening, and a good program is prepared and now in the hands of the printer. Joining the National Bee-Keepers' Association in a body will be voted on Wednesday. All bee keepers and those interested in bees are invited.

H. G. ACKLIN,
Chairman Executive Committee.

Illinois.—The Illinois State Bee-Keepers' Association will hold its 11th annual meeting Nov. 19 and 20, 1901, in room 17, at the State House, in Springfield. As there will be no set program we expect every minute to be passed to ask questions and answer those asked by others. Those who attend our meeting can avail themselves of the Odd Fellows' rates on the railroads as follows: The Central Passenger Association has made an open rate of one fare for the round trip. Other roads not in the Central Passenger Association will at least give a rate of a fare and a third for the round trip; and it is expected the roads will all meet the one-fare rate. There is no better way for bee-keepers to have a love-feast than to avail themselves of the cheap railroad rates, and turn out to the meeting; and, if they wish to get a discussion on some particular topic, just write a short paper on same, and rest assured the discussion will follow.

JAS. A. STONE, Sec.
R. R. No. 4, Springfield, Ill.

THE "MAGAZINE-AGE."—Never since printing began has periodical literature been so rich, varied and attractive as at present. A laudable artistic rivalry among publishers has brought their productions to a high pitch of excellence, while unusual activity, ingenuity and business energy has pushed circulation from city to cross-road the country over. Keen competition has also brought the price of excellent magazines to a point so low as to touch the pocket lightly. All this has resulted in making us a nation of magazine readers. Where one family formerly indulged in a single magazine and counted it a luxury, fifty now look upon it as a necessity. Progressive people, indeed, feel that they can hardly keep well abreast of the times without reading three or four magazines each month. Ordinarily this would entail no little expense, but right here the remarkable clubbing offers arranged by the magazine Success, of New York City, afford most substantial aid by making an average cut of one-half on ten leading periodicals. Through these offers, in fact, one can in some cases secure four favorite magazines for the price of one, as may be gleaned from a detailed announcement on page 734 of this issue. The offer would not be possible save for the co-operation of several periodicals in one advertisement, thus effecting a material saving to all concerned—especially to magazine readers.

FREE FOR A MONTH....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper published in the United States.

Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

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Acme of Perfection.
Not a Hybrid Among Them.
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World-wide reputation. 75 cts. each: 6 for $4.00.

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bred from stock whose tongues measured 25-100 inch. These are the red clover dustlers of America.

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Headquarters for Bee-Keepers' Supplies,
S.W. Cor. Front and Walnut Sts.
Catalog on application. CINCINNATI, O.

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1901—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog.
M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

Please mention Bee Journal when writing

Wanted Fancy White Comb Honey in no-drip cases; also Extracted Honey. State price, delivered. We pay spot cash. FRED W. MUTH & Co., Front & Walnut Sts., Cincinnati, Ohio. Reference—German National Bank, Cincinnati.

40A5t Please mention the Bee Journal.

Wanted Comb and Extracted Honey!

State price, kind and quantity.
R. A. BURNETT & CO., 199 S. Water St., CHICAGO
33Atf Please mention the Bee Journal.

Wanted—Honey.

Car Lots or otherwise; will pay highest market price, spot cash. Address, stating quantity, quality, and price desired at your station. Will send man to receive when lot is large enough to justify.
THOS. C. STANLEY & SON,
31Atf FAIRFIELD, ILL.

Wanted Comb Honey and Beeswax. State price delivered in Cincinnati.

G. H. W. WEBER,
43Atf 2146-2148 Central Ave., CINCINNATI, O.

Thanksgiving Day Excursions

on all trains of the Nickel Plate Road, on Nov. 27 and 28, to points within 150 miles, and good returning Nov. 29, 1901. Chicago Depot, Van Buren St., near Clark St., on Elevated Loop. City Ticket Office, 111 Adams Street. Also Union Ticket Office, Auditorium Annex. 'Phone 2047 Central. 41-46A2t

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Nov. 1.—The market is easier in tone, while prices are nominally the same, but would be shaded to effect sales. Some cars of honey enroute to the Eastern cities have been diverted to this and surrounding points, which is having a depressing effect. Comb brings 14@15c for best grades of white; light amber, 12@13c; dark grades, 10@11c. Extracted, white, 5½@6½c, according to quality, flavor and package; light amber, 5¼@5½c; amber and dark, 5@5¼c. Beeswax, 28c. R. A. BURNETT & Co.

CINCINNATI, Oct. 25.—The honey market is rather dull on account of the warm weather. Extracted sells only to manufacturers from 5@6c; better grades alfalfa strong up to 7c; 6@7c; white clover from 8@9c. Fancy white comb honey sells from 13½@15½c.

C. H. W. WEBER.

ALBANY, N. Y., Oct. 25.—Honey in good demand now, as this is the most satisfactory time to sell. Grocerymen are stocking up and will buy lines, when late they only buy enough to piece out. Fancy white comb, 15@16c; mixed, 14@15c; buckwheat, 12@13c. Extracted, white, 6½@7½c; mixed, 6@6½c. H. R. WRIGHT.

OMAHA, Oct. 25.—New comb honey is arriving by express in small quantities from Iowa and Colorado, and selling at $3 50 per case in a retail way. California extracted honey is being offered carlots at 4½@4¾c per pound, f.o.b. California shipping-points, but we have not heard of any sales having been made thus far. The production of extracted honey seems to be quite large this year in Colorado, Utah and California. PEYCKE BROS.

NEW YORK, Oct. 18.—Comb honey is in good demand and finds ready sale at the following quotations: Fancy white, 15c per pound; No. 1 white, 13@14c; amber, 12c; buckwheat, 10@11c. Extracted rather quiet at 6@6½c for white, and 5½@6¼c for amber. Beeswax rather quiet at 27@28c. HILDRETH & SEGELKEN.

BOSTON, Oct. 21.—There is a fairly good demand for stocks with ample supplies at the present writing. Fancy No. 1, in cartons, 15½@16c; A No. 1, in cartons, 15@15½c; No. 1, 15c; very little No. 2 is being received; glass front cases will bring about ½c per pound less. Light California extracted, 7¼@8c; Florida honey, 6½@7c. BLAKE, SCOTT & LEE.

DES MOINES, Oct. 25.—There is very little doing here in new crop of honey. Some small lots of near-by produced comb honey are on the market and selling in a retail way at $3.50 to $3.75 per case. We do not look for much trade in this line before Sept. 1. Our market does not consume a great deal of extracted honey.

PEYCKE BROS. & CHANEY.

DETROIT, Oct. 25.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.

M. H. HUNT & SON.

SAN FRANCISCO, Oct. 30.—White comb, 10@12 cents; amber, 7@9c; dark, 6@7 cents. Extracted, white, 5½@—; light amber, 4½@—; amber, 4@—.

Not much arriving here, nor are spot stocks of large proportions, either of comb or extracted. While demand is not brisk at full current rates, buyers are not able to obtain noteworthy concessions in their favor, especially where most desirable qualities are sought after. Beeswax, good to choice, light, 26@28c; dark, 24@25c.

KANSAS CITY, Oct. 25.—Up to the present time only small lots of new comb honey have been on the market, and these met with ready sale on the basis of 15@16c per pound for fancy white. For next week heavier receipts are expected and quotations are issued at $3.10@$3.25 per case for large lots, which would be equal to about 14@14½c; the demand being quite brisk, a firm market is anticipated. Inquiries for extracted are a little more numerous, but large buyers still seem to have their ideas too low. In a small way 5½@6c is quotable.

PEYCKE BROS.

Send for circulars regarding the oldest and most improved and original Bingham Bee-Smoker. FOR 23 YEARS THE BEST ON EARTH.

25Atf T. F. BINGHAM, Farwell, Mich.

Please mention Bee Journal when writing.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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Queen-Clipping Device Free....

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & COMPANY,
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Everything used by bee-keepers. POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.

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A New Bee-Keeper's Song—

"Buckwheat Cakes and Honey"

Words by EUGENE SECOR.
Music by GEORGE W. YORK.

This song was written specially for the Buffalo convention, and was sung there. It is written for organ or piano, as have been all the songs written for bee-keepers. Every home should have a copy of it, as well as a copy of

"THE HUM OF THE BEES in the APPLE-TREE BLOOM"

Written by
EUGENE SECOR and DR. C. C. MILLER.

PRICES—Either song will be mailed for 10 cents (stamps or silver), or both for only 15 cents. Or, for $1.00 *strictly in advance* payment of a year's subscription to the American Bee Journal, we will mail both of these songs free, *if asked for*.

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144 & 146 Erie St., - CHICAGO, ILL.

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Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

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Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

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The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

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Texas Bee-Keepers.

New Branch Office. We beg to announce the opening of a branch office and warehouse at 438 W. Houston St., San Antonio, Texas. Rates of transportation from Medina in less than car-load lots are high, and it takes a long time for a local shipment to reach Southern Texas points.

Low Freight and Quick Delivery. To secure these two necessary advantages—low freight and quick delivery—and to be better prepared to serve the interests of our Texas friends, is our reason for establishing this new branch office. No other point in Southern Texas is better adapted to serve as a distributing point than San Antonio. It has four great railroads—the Southern Pacific R. R. east and West— the International and Great Northern R. R. from Laredo up through San Antonio and Central Texas, the San Antonio and Arkansas Pass R. R., and San Antonio and Gulf R. R. It also has the American, Wells-Fargo and Pacific Express Companies.

San Antonio as a Shipping-point.

Our Managers. We have secured as managers Mr. Udo Toepperwein, formerly of Leon Springs, and Mr. A. Y. Walton, Jr., both of whom are well known to the bee-keepers of South and Central Texas. They are also thoroughly familiar with practical bee-keeping and all matters associated with it, and any orders sent to this branch will receive prompt, careful attention.

Our Goods. As usual our motto is to furnish the best goods of the most approved pattern. We do not undertake to compete in price with all manufacturers. Bee-keepers have learned that it does not pay to buy cheap supplies, for a saving of 10 cents on the first cost of a hive may be a loss of many times this amount by getting poorly made and ill-fitting material. Every year brings us many proofs that our policy of "the best goods" is a correct one.

Our Catalog. Very few changes in prices will be made in our new catalog, so do not delay your order, but send it at once. You will be allowed a refund if lower prices are made, and in case of higher prices ruling in the new catalog, if any, you will secure the benefit by ordering now. Catalog and estimates may be had by applying to the address given below.

Our Invitation. Whenever you visit San Antonio you are invited to call at our office and make it your headquarters. Here you will find a display of Apiarian Supplies not equaled elsewhere in Texas. You will also find on file the leading bee-journals to pass pleasantly your leisure time.

Spanish Catalog. Some of you may read Spanish, or have a bee-keeping friend who does. If so, call for our Spanish catalog. It's sent free.

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GEORGE W. YORK & CO. 144 & 146 Erie Street, CHICAGO ILL.,
are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.

AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., NOVEMBER 21, 1901.

FORTY-FIRST YEAR
No. 47.

A "SUMMERY" VIEW OF
DR. C. C. MILLER, OF M'HENRY CO., ILL.

DR. MILLER'S COZY HOME ON THE HILL.

A LOAD OF M'HENRY CO.'S "BEST CROP"—SIX-SEVENTHS
OF THE CHILDREN OF JOHN WILSON.

MISS EMMA WILSON—DR. MILLER'S SISTER-IN-LAW
AND CHIEF HELPER IN THE APIARY.

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

144 & 146 Erie St., Chicago, Ill.

Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

EDITORIAL STAFF.

GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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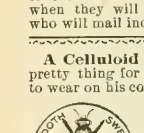
☞ If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Secor, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

No. 4 "Barler Ideal" Oil-Heater.

The "Barler Ideal" OIL-HEATER....

Saves Its Cost Every Year!
NO ODOR! NO SMOKE! NO ASHES!
Costs only a cent an hour to run it.

The editor of the American Bee Journal is using the "Barler Ideal" Oil Heater, and it is all right in every way. We liked it so well that we wanted our readers to have it too, so we have recently arranged with its manufacturers to fill our orders. The picture shown herewith is the one we recommend for general use. It is a perfect gem of a stove for heating dining-rooms, bed-rooms, and bath-rooms. It hinges back in a substantial way, and is thoroly well made thruout. The urn removes for heating water. The brass fount, or well, has a bail, and holds nearly one gallon of kerosene oil. It is just as safe as an ordinary lamp. You wouldn't be without it for twice its cost, after once having one of these stoves. Most oil-stoves emit an offensive odor, but this one doesn't. Its hight is 2¼ feet, and weighs 20 pounds, or 30 pounds crated ready for shipment, either by freight or express.

Price, f.o.b. Chicago, **$6.00**; or, **combined with a year's subscription** to the American Bee Journal—**both for only $6.50.** FULL DIRECTIONS GO WITH EACH STOVE.

If you want something that is really serviceable, reliable, and thoroly comfortable, you should get this "Barler Ideal" Oil Stove, as it can easily be carried by any woman from one room to another, and thus have all the heat you want right where you want it.

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Please Mention the Bee Journal when writing Advertisers *****

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Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The holsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

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THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., NOVEMBER 21, 1901. No. 47.

Editorial.

A Dr. Miller Number is what might be called this week's issue of the American Bee Journal. When we visited him recently we discovered the original photographs of the pictures shown, and decided to use them in a single number, as we now have done.

As we have described quite fully each illustration, no extended write up by us will be necessary. Still, if there is anything about the pictures our readers would like to know more of, they can easily send in their proper questions to Dr. Miller, when he will reply to them in these columns.

We wanted very much to show a picture of Mrs. Miller, but she said "No" in such a kind, yet decided, way that we felt we must respect her wish. She is a most lovely woman, greatly interested in all the Doctor's work and writings. Of course, you'd expect Dr. Miller to have just such a wife.

As our readers know, Dr. Miller is past his 70th birthday, and yet no one would suspect him of being nearly that age. He retains his youth in a wonderful manner. But that comes from the Spirit that dwells within, and that shines forth in his daily life. It keeps him young and happy. May it also keep him with us yet many years, to bless and to cheer all who are so fortunate as to meet him or read his helpful words.

The 3d International Congress is to be held Sept. 9, 10 and 11, 1902, at Bois-le-duc, Holland, and the program is already published. Among other topics are: The role of bees in fertilizing grain and grape-vines; increase of bee-pasturage; causes of swarming; influence of food upon the brood; length of bees' tongues; foul brood legislation in different countries; adulteration of honey and wax; suppression of fumigation of bees sent from one country to another. The last topic is to be in the hands of our esteemed countryman, Mr. Dadant.

Sampling Honey in the best way is a matter of considerable importance. At fairs or other exhibitions it is important that nothing untidy shall be done, and it is by no means a pleasant thing to have a spoon passed from one person to another or dipped into honey after having been in the mouth. The matter is perhaps more strongly accentuated in the case of selling honey by samples, for a prospective customer, on being handed a sample of honey in a spoon, has no means of knowing who the preceding taster has been, and in some cases he will plumply say he wants no honey rather than to put in his mouth that which may previously have been in a mouth that was filthy or diseased. The best way to have no suggession of uncleanness is to avoid the use of anything the second time—in other words, to throw away immediately whatever has been used once. A common wooden toothpick serves a fair purpose, and for sampling comb honey there may be nothing better, for with a toothpick there is no need to break open more than one cell. For extracted honey something a little broader than a toothpick would be better. Some have splints specially prepared, and it might be interesting to learn from those of experience what is the best and most convenient thing.

Spraying Fruit-Trees in Bloom.—An editorial in the Farmers' Review, after speaking of the harm to bees, says:

It has also been discovered that the poison is equally destructive to the life of the pollen, even when the amount of poison is only 9 to 10 parts in 10,000. Even two parts in 10,000 has been frequently found fatal to the pollen. The danger to the pollen is, however, greatly lessened by the fact that the blossoms do not all open at once, but the process extends over several days. In a clump of five apple-blossoms the central one opens first, and spraying at that time kills the pollen in only these open blossoms.

Crate, Rack, or Super.—Something of a controversy is now on in the British Bee Journal as to the proper term to use for the receptacles on the hives that hold sections. The supply catalogs and some of the correspondents have it "crate," while the journal insists it should be "rack." They might do worse than to compromise by using the word in almost universal use in this country—"super." Unfortunately, while there is unanimity in this country as to the written word, the spoken word is by no means always the same. It is just as much out of the way to say "sooper" in place of "super" as it would be to say "coor" in place of "cure."

Moving Bees.—The distance bees can safely be moved—that is, without danger of their returning to the old location unless special precautions are taken—is a matter that depends upon circumstances. It may be two feet, or it may be two miles, much depending upon the time of year. After bees stop flying in the fall, and up to the time when they begin to gather in the spring, they may be moved any number of inches or feet, and there will be little danger of any returning to the old place, because each time they fly out they do more or less marking of the location.

At a time when they are gathering daily, if forage is so plenty that they do not fly as much as a mile from home—providing such a supposition is admissable—then a removal of a mile or more from home would not be likely to be followed by the return of bees to the old location. If they should be working upon basswood five miles away, then a removal of two, three, or five miles in the line of that flight might be followed by the return of a considerable number of bees to the old place, for after working on the trees with which they are already acquainted, it will be in accord with their former habit to make a bee-line for the old home.

Late Feeding of Sugar Syrup—as late as the present date, or at any time during the winter—should only be mentioned to be condemned. If, unfortunately, a colony is still short of stores, supply the deficiency either by means of combs of honey or of "Good" candy. If the work is carefully done, a hive may be opened and a comb of honey placed close up to the cluster of bees without seriously disturbing them. If you have no surplus combs of honey, take an empty frame and fill it with sections of honey, trimming off enough to make them fit in the frame, then hang the frame of sections in the hive. If the bees of the colony extend below the bottom-bars, combs or sections may be shoved under for their use, providing there is a sufficient space under the bottom-bars, as there is in many cases at the present day in winter.

Honey Jimcracks.—"The following is recommended in Progres Apicole," says Gleanings in Bee-Culture. "For want of a better name we will call them 'honey jimcracks.' They are doubtless good in both French and English:"

Mix together one quart of honey, one quart of powdered sugar, one quart of fresh butter, and the juice of two oranges. Incorporate with this, slowly, a little fine wheat flour, and make a dough of it thick enough to be rolled out; knead it, and beat it for several minutes, and finally roll it out with a rolling-pin in layers about half an inch thick. Cut out round cakes, like biscuit, and bake them on a light plate, greased with butter, with moderate heat.

Do Bees Pierce Grapes?—Mr. Gerloni relates in the Austrian Bee Journal that being in a region where grapes are largely cultivated, his neighbors charged his bees with the destruction of grapes. He invited them to a test. Clusters of grapes of 28 varieties were

placed for the bees Sept. 25, but were left untouched the entire day. Next day the clusters of grapes were sprinkled with honey-water. They were vehemently attacked by the bees, the sweetened water licked up clean, yet not a berry injured. September 29 the clusters were changed, sprinkled with honey-water, and five berries in each cluster pierced with a needle. They were promptly licked off, the punctured berries emptied, and the rest left whole. The next day ten grapes were punctured in each cluster, and these alone cleaned out, except two or three berries that had probably been accidentally injured. Black Portuguese grapes were an exception; ripening early they burst open, especially in wet weather, and, of course, were then cleaned out by the bees.

A Good Word for the Blacks is spoken in the Rocky Mountain Bee Journal. A. E. Willcutt has blacks with a tongue-reach of 16-100 inch which gather more than his Italians with 19-100, and he thinks if blacks had had as fair a chance as Italians the blacks would be ahead.

Weekly Budget.

THAT TEXAS HORSEMINT paragraph, on page 706, was written by Mr. Louis Scholl, instead of Editor Root. The wrong credit is clearly an error on our part, as we have since noticed that it is plainly stated in the original article from which the paragraph was taken, that Mr. Scholl was requested to write about the horsemint, after Mr Root had departed from Texas. We are glad to make this correction.

MR. W. Z. HUTCHINSON, writing us Nov. 10, said:

FRIEND YORK:—When at Buffalo I promised Mr. H. G. Acklin that I would come up to their December convention at Minneapolis, Minn. I have just received notice that it will be held the 4th and 5th. This throws me out of attending the Chicago convention. I am sorry, as I had anticipated having an enjoyable time. Yours truly,
W. Z. HUTCHINSON.

Well, that is too bad. But the meeting will be a good one, anyway. Of course, all would like to have Mr. Hutchinson present, but what will be our loss will be Minnesota's gain.

MR. W. J. CRAIG, the editor of the Canadian Bee Journal, and withal a very pleasant gentleman, was present at the Buffalo convention, and has this to say editorially:

As was previously announced, the exercises consisted principally of questions and answers. We were afraid at first that this kind of program would become monotonous and tiresome, but the interest continued right through, and very much valuable information was imparted. Mr. E. R. Root proved himself an ideal chairman, and perfect order and good humor prevailed during the sessions. Dr. A. B. Mason, the genial secretary, has a happy faculty of making people feel at home. We Canadians were treated with the greatest possible courtesy and consideration; pleased to say we had a good representation.

The Buffalo Convention.

Report of the Proceedings of the Thirty-Second Annual Convention of the National Bee-Keepers' Association, held at Buffalo, New York, Sept. 10, 11 and 12, 1901.

(Continued from page 727.)

USING FOUNDATION FOR COMB HONEY.

"Is it desirable to use drawn foundation in securing comb honey?"

Mr. Wilcox—Some years ago I was called upon to conduct some experiments on the subject of the use of full sheets of foundation and small starters, and, from those experiments, I might say that the result showed that the more comb I gave them the quicker they were filled and finished, hence the drawn comb was the first filled and finished, the full sheets of foundation next, and the small starters last. This question probably relates to the practice of putting in a sheet of foundation to be drawn out half length or more, to be cut up and used in sections as starters for the bees. I am satisfied with that experiment and subsequent experience, that the bees produced more honey if supplied with combs fully drawn. At the same time, I do not think it practicable for the majority of bee-keepers to do it. The difficulty or trouble of getting them drawn out balances the gain, and I prefer to put in the starters and let the bees draw them out and then fill them.

Mr. Heise—I think probably Mr. Wilcox has the key to the question. I thought probably this referred to the artificially drawn combs. Probably it does not.

Mr. Betsinger—I hate awfully to let it stand in that form. My experience is that they will use foundation, do better work and fill the section quicker than they will with the foundation that has been drawn out previously, especially if it has been carried over one season.

FLAVOR OF RED CLOVER HONEY.

"Can any one here tell the flavor of red clover honey?"

J. F. Moore, of Ohio—We have had a good deal of red clover honey down in our section this summer. It is a thing we have never experienced before, and generally after the middle of July the bees seemed to settle back and think they have done all that is necessary, but this summer they have gathered considerable honey from red clover. It is very much like white clover. When you open a hive in which it has been gathered freshly it reminds you of white clover. It seemed to be very white and nice. The bees were at work on red clover and there wasn't anything else to gather. It is in Seneca County, Ohio. Some of the bees were pure Italian; most of them were hybrids. Hybrids are kept more easily than Italians in our section. There was white clover early in the season, but later there was very little of it.

Mr. McEvoy—Every kind of bee has gathered honey this year from red clover.

Dr. Mason—I suppose there are a good many of those present who have robbed bumble-bees' nests, and if you have, and tasted the honey, you know just about how red clover honey tastes. It has a real, nice flavor.

Mr. Hershiser—Referring to the secretary's remark about bumble-bees gathering red clover honey, I would like to know if bumble-bees do not gather other honey than red clover honey.

Dr. Mason—I think the flavor of red clover predominates. I have tasted of it quite a good many times in different apiaries, and the parties have called my attention to it as having been gathered from red clover

HONEY FERMENTING IN THE COMB.

"Will honey ferment in the comb?"

Mr. Wilcox—I know it will.

Mr. McEvoy—Yes.

Dr. Mason—That depends on where it is kept, I believe.

Mr. Wilcox—Whenever it is kept warm enough to absorb moisture, and once the moisture clings to the honey, and if it is continued warm and moist, it will ferment. If it is kept warm and dry it is all right. It must absorb the moisture first to ferment.

COMBS OF CANDIED HONEY.

"What is the best method of handling combs that contain candied honey, in the spring?"

Dr. Mason—Uncap it and give it to strong colonies.

Mr. Moore—I would advise uncapping it and pouring water on the comb where it is candied. Bees will use it up.

Dr. Mason—If the honey is moist you need not pour any water on it. If it is dry, pour on some water.

W. L. Coggshall—I would just pile those hives up with the candied combs outdoors where the bees could have access to them, and that honey you can take and put in a wax-extractor and liquefy it.

Dr. Mason—If it is moist, you would not need to do that way.

W. L. Coggshall—I wouldn't pour any water on the combs.

"WHAT IS A TESTED QUEEN?"

Mr. Wilcox—One you have tried and found to be good for nothing.

Mr. Heise—Is that the only way we can tell tested queens?

Dr. Mason—The other is when it has been tried and found to be good.

Mr. Benton—I think some one who has asked that question would like to know what a tested queen is. In popular parlance a tested queen is one that has been kept until we have seen

her worker-bees and know from their markings that they belong to the race they are supposed to belong to. A queen is partially tested as soon as you have seen her deposition of eggs, when you have observed that she has deposited eggs and laid them regularly; but in the popular parlance, it is a queen whose workers you have seen and which come up to the standard of the race she is supposed to belong to. You can carry a test somewhat farther and test her for her queen progeny, test her for their gathering qualities; but I think everybody understands the popular test.

Mr. McEvoy—I like a queen to lay her eggs so that when they come to cap the cells they will all be capped in one day. I do not like an irregular layer.

Mr. Benton—I want the brood to be in solid. It develops better because of its mutual heat. The developing insect develops a great deal of heat, and we can test a queen from the appearance of her eggs.

Mr. Moore—I have an idea that the man who asked that last question would like to know if he has an Italian queen. How would you know the progeny? What is the marking of an Italian bee?

Mr. Benton—The first and prime point is three yellow bands on the anterior part of the abdomen, that is, directly under the wings or near the thorax of the insect. Not necessarily light, because there are dark and light Italians, and I should say that the queen that gave workers showing those three yellow bands and the general large form of the Italian, with a brownish tint over the body that is due to the fuzz on the body, would come up to the standard of an Italian queen, and the more even that marking is the better it would be in that particular respect. An evenness in the points, every worker like every other.

A Member—I would like to ask Mr. Benton if he would deem a bee an Italian that showed four bands?

Mr. Benton—I would say that was a queen that had been produced by selection, but I would not require that the workers had four bands in order to come up to the Italian standard.

A Member—Suppose most of the bees had four bands, but once in a while you saw one with only three, would that be against her?

Mr. Benton—Decidedly. I would not call that a pure Italian bee.

Mr. Wilcox—I agree with Mr. Benton, that uniformity of markings is the most important point.

MISCELLANEOUS MATTERS.

The secretary then read a letter inviting the members of the National Bee-Keepers' Association to the annual meeting of the Ontario Bee-Keepers' Association, to be held at Woodstock, Ont., in December.

Mr. Heise warmly seconded the invitation to the members.

Mr. York—I would move that we as an association accept the invitation so courteously tendered by our friends from across the border, and as many as possible attend their meeting.

The motion was seconded by Dr. Mason and carried.

Mr. York—It seems to me it would be well to have a committee on resolutions to report at the close of the session.

On motion, Messrs. Abbott, C. C. Miller and N. D. West were appointed.

Mr. Benton—I move that the convention adjourn tomorrow at 1 o'clock and meet at the Epworth Hotel in the evening.

The motion was seconded.

Dr. Mason—I move as a substitute that those who wish to go to the Pan-American can do so, and the others remain here.

After a brief discussion the substitute was carried.

Mr. York—I move that the matter of selecting a badge be referred to the Board of Directors.

The motion was seconded by Dr. Mason, and carried.

Mr. York—On the matter of score card, I would move that the same committee that acted last year be re-appointed to act this year. I think Mr. N. E. France, of Wisconsin, was chairman of that committee. Mr. Hutchinson was also a member, and Mr. Hershiser.

The motion was seconded.

Dr. Mason—If I remember correctly, the score card committee last year made a recommendation and it was adopted by the Association.

Mr. York—They reported after the close of the convention, by mail, and that report was printed with the rest of the proceedings. With the consent of the seconder, I will withdraw my motion.

Mr. Hershiser—I move that a new committee be appointed to revise the work of the old committee.

Mr. York—I move that this convention select a committee of five to report on the score card before we adjourn, as recommended last year.

The motion was seconded by Dr. Mason, and carried.

Mr. York—I nominate Mr. Benton.

Mr. Wilcox—I nominate F. Greiner.

A Member—I nominate Mr. Miller, of Canada.

The score card is a card recommended to be used by judges at honey exhibits.

Mr. Hershiser—I nominate Mr. Hutchinson.

Mr. Heim—I nominate Mr. Hershiser.

Mr. Benton—I would prefer to withdraw in favor of somebody else.

A Member—Then I would nominate W. F. Marks, of New York.

The motion was put and carried.

It was moved, seconded and carried that the roll of those present be called by States. The result was as follows: Massachusetts 2; New York 42, Pennsylvania 8; New Jersey 3; West Virginia 2; Cuba 1; Texas 2; Missouri 2; Iowa 1; Minnesota 3; Wisconsin 1; Illinois 4; Indiana 1; Michigan 4; Ohio 8; Canada 18; Maryland 1; Connecticut 1; New Hampshire 1; Jamaica 1.

QUESTION ON QUEEN-REARING.

"How many days after the egg hatches in a queen-cell does the queen cease to live on the royal jelly, and what does she then live on?"

Mr. Benton—It varies from 5½ to 6 days; in other words, she lives on this royal jelly or larval food during her whole larval period: the cell is then sealed over, and she then lives on the fatty tissues derived from the food she ate in the larval condition. The tip of the abdomen, or nymph, is inserted in the food which remains there. I express the opinion that by absorption she does take from this food something in addition, but for the greater part I should suppose that she lives from the food deposits or tissue derived from the food she had eaten while in the larval period. The pupæ of many insects remain over winter—large numbers—and some insects remain two or three years in this condition before they come out, and then we have the 17-year locust that remains 17 years in this condition, living on the absorbed tissue.

Mr. Betsinger—A similar question was discussed within the last two years, and I asked the question how the queen took this food, and of course the answer was given similar to what Mr. Benton gave; but I see he has added that she takes the balance of the food through the abdomen.

Mr. Sleeper—I think I have seen indications that this substance called royal jelly is largely absorbed by the posterior portion of the abdomen during this time after the larvæ is sealed.

Mr. Benton—It might be well for me to say that I expressed an opinion merely; I have a little basis for that opinion. I have noticed that if cells are shaken at a certain period, this juncture of the pupa in the queen-cell is broken, and she drops to the bottom; of the cell and may never emerge after that—it depends upon the state of development if she emerges; and if she emerges, she may be somewhat inferior through having dropped down. My inference was that she was deprived of the final part of the nourishment.

Dr. Mason—I think I have seen cases of that kind where the queen was detached in that way in an early period of the development. It injured the queen very materially.

Mr. Benton—The idea would then be not to handle queens roughly, or to move them as little as possible until the perfect queen has emerged.

MEMBERSHIP QUERY.

"If I fail to renew my membership and renew it afterwards, when does the renewal date from?"

Dr. Mason—The renewal dates from the time you renew. If you are a member of the Association and you fail to renew that membership by the time the year expires, you cease to be a member; so, those of you who are members, don't entertain the idea that you can have the protection of the Association and pay at the end of the calendar year.

DOES COMB COLOR AFFECT COLOR OF EXTRACTED HONEY?

"Does the color of comb make any difference in the color of extracted honey?"

Mr. McEvoy—Take old combs and sprinkle them well with water, shake them, and see if you don't get something a little the color of tea. Take a white comb, shake it and see what you get from that. Now, after a comb has been used several times and extracted, the bees have cleaned it out so much that you cannot see much difference.

Mr. Betsinger—I made it a business to attend a good many fairs and I have seen some pretty fine honey; I have made a great point to find out where it came from, and I believe there is an exhibition today in our State, and the

extracted honey was taken from old combs. There was also honey there taken from new combs. It has not taken the first premium because of its lack of color. Now, I will admit that you can wash old combs and get color from them, but it is not honey. Honey doesn't take on color. You can lay it down in the dirt and it will still be white.

Mr. Wilcox—I would like to ask you if your first extracting is not a little darker in color than the next honey-flow.

Mr. Betsinger—I would say, no, sir. The honey taken the second time is no whiter than the first, but the season in this State is not long enough to get honey from any one blossom; you would have to extract every day to get the same quality; our flowers vary from day to day.

Mr. McEvoy—I have been 18 years an inspector in the Province of Ontario, and I think very few men have more thoroughly tested the quality of old and new combs, and my experience has been that the old combs do give it a shade of color. You will get, perhaps, a little better color of honey from one colony than another.

Mr. Betsinger—Do you mean to say that one colony gets whiter honey than the other from the same field?

Mr. McEvoy—I would not say the same field.

Mr. Davidson—I would like to add my experience to that of Mr. McEvoy. I have been in the extracted-honey business a good deal, and while I do not know that honey will take on color, I do know that honey taken at the same time stored in light and dark combs will have different colors. I have tested it in our extracting in Texas. The bees store the honey in the brood-combs sometimes, and I have to separate those combs and keep them separate from my regular extracting-combs in order to keep from coloring the whole lot of honey. I know it is gathered at the same time and by the same colony.

"Jamaica"—My opinion is that the comb has a lot to do with the color of the honey, because down our way all our honey is pure white. I have known the same honey to be stored in dark or old combs and it brings out a dark honey with a very inferior flavor.

A Member—It occurs to me that perhaps there may be a double meaning. Mr. Betsinger may refer to old combs that have been used a number of years for extracting, and some one else may refer to combs that have been used in the brood-chamber recently and then put into the hive and honey extracted from them. In that case my experience would be that the honey is somewhat colored.

W. L. Coggshall—Mr. Davidson, in talking of that matter, said he got more or less bee-bread in the honey, which made it a little bit colored. Mine is almost all buckwheat honey, and, of course, you couldn't see much difference there. I think there is hardly enough difference to make it worth while to bother with.

Dr. Mason—This is an important matter. Some of you produce dark honey only, and that is all, and your opinion isn't worth much. It is only a few years since, that I advocated this matter that it did color, and I was laughed at; and no longer ago than two years, in the Philadelphia convention, when I spoke of this, President Whitcomb said, "Do you believe that honey dissolves the wax?" Mrs. Harrison recently said something on this subject in one of the bee-papers, "When you want nice, light honey get nice, new combs." Now, I have had a good deal of experience in this line, and this year I have been more thoroughly convinced of it than ever. I have combs that had been used as brood-combs for years, and that had not been used as brood-combs for several years past, and I put them in supers with combs that were never used for brood-rearing; I uncapped the old and the new and extracted, the old combs in one extractor and the new ones in another extractor—and the co or was so different that you wouldn't believe it was the same honey. Now, I am so thoroughly convinced of this that, although I have about six full extracting combs to the colony, I am going to destroy every one of them and put new ones in place of them, so that I can have honey not colored by old combs.

Mr. Betsinger—I may be behind the times, but I am not behind in long years of experience. I have extracted, of course, more or less honey from old and new combs, and I would not give a snap of my finger for the difference between old and new combs.

Mr. McEvoy—I don't wish to be understood as saying that using old combs is going to give you a dark-colored honey. I would use it several times before I would think it sufficiently washed out.

Mr. Terrell—I wish to endorse what Mr. McEvoy has said. The question is whether it refers to old combs that have been used for years for extracted honey. This season I have taken combs from old colonies, placed them on top for extracting purposes, and the first honey extracted was decidedly colored, but as I kept on taking off the honey, the last extracting there was not very much difference between the honey from the old combs and the new ones.

Mr. Benton—When the honey is first gathered it is about three-quarters water. Now, if pure water would take on the coloring, why wouldn't three-quarters water and one-quarter sugar?

W. L. Coggshall—In sending some bees down to Cuba I sent along some combs, and I left from 10 to 12 pounds of honey in each colony, and it took them that whole season down there to get that dark honey out of the colonies. The bees kept carrying it up, and it took but a very little dark honey to color the white honey.

F. J. Miller—If there is any person who is doubtful about this, if he will pour water into a comb and allow that water to stand half an hour and then pour it out, he will see a decided black color; and if he refills that comb the color will gradually grow lighter. I have invariably found that I could not make an exhibition article of honey from those brood-combs. Commercially speaking, it would not matter, probably, but if you were doing it for exhibition purposes it would make a decided score against you.

Mr. Wilcox—All the arguments go to show that the first extracting is darker colored than the second, but they don't show why, because that color comes from the comb itself, or the accumulation of dust and dirt that may be in that comb during the winter season. I have supposed that it was an accumulation of smoke or dirt which might have gotten into the combs during the winter. I don't know yet whether that coloring is in the comb itself. I shall be slow to destroy my old black combs. I shall keep them and extract from them.

Mr. Betsinger—The gentlemen mention their first extracting as being a little colored. Honey isn't water; it is an oil. You can not make a wash with honey.

Mr. McEvoy—Allow me to explain a little. A member speaks about the first extracting of honey. Now, with me I work so as to have no honey extracted except clover, and the clover from the white combs is a shade whiter on the start than it is from the old combs.

Mr. Betsinger—If you were in a locality where you didn't have one drop of honey in the brood-chamber—none at all to come up into the surplus chamber—then I must say you are a happy man to extract honey.

Mr. McEvoy—I uncap between fruit, plum and clover, and I convert the honey into brood feed. Mr. Heise knows the system I follow, and Mr. Miller knows it. I think that I can prove my case.

Mr. Betsinger—Does any mustard grow in that locality?

Mr. McEvoy—I dare say you could find some, but I myself don't know where it is.

N. L. Stevens, of New York—Is the honey stored in those dark combs affected any in flavor by storing in them?

Dr. Mason—No, sir; it takes a fine taste to tell it. No man who chews tobacco can tell the difference.

SMOKING BEES WITH TOBACCO.

"Is it detrimental to the bees to use tobacco-smoke whenever necessary to open hives?"

Mr. McEvoy—I don't think it is necessary ever to use tobacco-smoke.

Mr. Benton—I would say, decidedly, never use tobacco-smoke on them.

Dr. Mason—I have a strain of bees with which I don't think of using smoke or veil. I take out the combs and shake the bees off without ever getting a sting.

Mr. Benton—I think there are times when some have claimed that tobacco-smoke was useful in introducing queens, but I should think that being strong-scented and producing a strong odor in the hive would probably conduce to the receiving of a queen, and I do not think it is permanently detrimental to use tobacco-smoke on queens.

Mr. Moore — Does tobacco-smoke have a more detrimental effect in conquering very cross bees than just ordinary smoke?

Mr. Benton—I think if used on the ordinary cross Italian bee it is a good thing, but not on Cyprians.

Dr. Mason—I have sometimes tried it in introducing queens, and it has seemed to be a help.

Mr. Hershiser—I tried uniting colonies of bees, or nuclei, to make the colonies strong enough to winter, some years ago, and gave them so much that it made them sick, so that they dropped down to the bottom of the hive; but after they "came to" again they

proceeded to fight it out in the ordinary way.

Mr. Davidson—I have introduced hundreds of queens by using tobacco-smoke, and very successfully, but I would like to add a word of caution—it ought not to be done at any other time than late at night. The way I use it for introducing is right at night; just give them a few puffs of tobacco-smoke and put in your queen—enough to make them so they all feel the effects of the smoke. It is the most successful way I have tried in ten years of introducing queens; but it requires caution to keep down robbing. I use common smoking tobacco, and smoke them till I know they all feel the effect of it. You can tell by the noise they make running around. I used to use it in the middle of the day, but when smoked in the middle of the day a few strange bees are apt to come in.

ELECTION OF OFFICERS.

The matter of election of officers for the ensuing year was then taken up and the following nominations made:

For President, W. Z. Hutchinson was nominated by Dr. Mason.

Mr. Abbott moved that the rule be suspended, and the secretary be authorized to cast the unanimous ballot of the Association for W. Z. Hutchinson as president for the ensuing year. The motion was seconded and carried, the secretary cast the ballot, and Mr. Hutchinson was declared duly elected.

For vice-president, O. L. Hershiser was nominated by Mr. Benton. Mr. Hershiser's nomination was seconded, and on motion of Mr. Abbott the rules were suspended and the secretary instructed to cast the ballot for Mr. O. L. Hershiser, who was then declared elected vice-president for the ensuing year.

Dr. A. B. Mason was nominated as secretary, and duly elected in the same manner.

The convention then adjourned till 7:30 p.m.

(Continued next week.)

Contributed Articles.

Queen-Breeding and Improvement in Bees.

BY A. NORTON.

IT is a matter for rejoicing that so much attention is now being given to the improvement of stock in the apiary. In one sense the movement is not new. For years individuals have worked along this line and have done what they could independently, some in one direction and some in another. Even yet the movement has not become systematic; but it has grown so much in magnitude and is atttacting so many of our most systematic apiarists and queen-breeders that we may expect to see it assume more and more systematic shape each season, if results do not prove too temporary to warrant its continuance. At least the united efforts of breeders will demonstrate how much dependence may be placed upon this hope of improving our races of bees, so that more intelligent estimates can be formed in the near future than at present. Even yet there is room for betterment in the aims of our improvers, some of whom decry what others are bringing about, and narrow their desires down to certain points, to the exclusion of other desirable ones. But we may hope that broader and so more uniform aims will soon prevail, and that then all breeders will be pursuing the same parallel paths.

Through but few pages of earth's record can we trace back bees and breeding. Geologically we know bees of sundry species as early as the Eocene age of the Cenozoic (or Mammalian) time. The oldest known specimens are found preserved in the Eocene amber, or fossilized wax, on the shores of the Baltic Sea. That was about the time of the first appearance of flowering plants and trees, and before there was any one to domesticate and breed them. There were none even to love the sweetness of their garnerings till the cave bear came, unless animals of some other then existing orders were fond of honey.

How long honey-bees have been the associates of man as domesticated insects can not be even conjectured. Historically, the searches into this question that we have seen from time to time in the American Bee Journal have carried us well into antiquity, but have not brought us to any answer. They have shown, however, that anything like intelligent handling and careful breeding is by no means ancient, and that our present improvements have been accomplished within a short period. While we should avoid over-conservativeness, or "old fogyishness," in regard to progress, we may, on the other hand, get into over-enthusiasm in our visionary hopes.

In considering the subject of breeding bees, and the possibilities that lie therein, men are liable to let preconceived ideas carry their hopes, if not beyond the possible, at least beyond the probable. Yet any who may have excessive expectations of what breeding may bring forth, are likely more wrong in their premises than in their conclusions. If the theories we are just now told we must believe or be behind the times, are true, that life evoluted from dead matter and man originated in some monkey, and so on back in formless protoplasm, why need we limit our ambition in the line of breeding? Let us produce Apis dorsata, or something just as good, from the bees we already have, instead of searching Asiatic jungles for them. Let us breed bees from wasps, or, perchance, develop mosquitoes into storers of nectar instead of probers for blood.

Domestication hastens variation and increases it; but the balance of variation and heredity will always continue stable. Natural selection, therefore, may be considered as God's preventive of degeneracy, and not a substitute for creation; and, as surely as God circumscribed the ocean, He has also set the bounds of propagating organisms—"So far shalt thou change, and no further." Logic may lead us astray in these matters. If we reach the North Pole and keep on traveling, we will be getting away from it. So it is with truth, which is the only science; for logic, assumption, and speculation are not science.

Take, for instance, the familiar illustration of the deer and the wolves. The fastest deer can save their lives and breed faster offspring; and thus their speed has been attained, say logic, assumption and speculation. This necessitates the assumption that they once were slow. Do we know this to be a fact? How did they become slow if not by a process of evolution from some other condition? But, dismissing this little difficulty, we give assumption, speculation and logic full play, and conceive that once the wolves were so slow they could not catch the deer: and the deer were so slow they could not get away from the wolves. But the stern necessity for catching deer, and the pressing need of eluding wolves, have tended to make the wolves so fleet that they can overtake the deer, and the deer so swift that they can keep ahead of the wolves.

DR. MILLER ILLUSTRATING TO A VISITING FRIEND THE CROCK-AND-PLATE FEEDER IDEA (USING TUMBLER AND SAUCER.)

By like reasoning from assumption, we can prove that bees once had tongues too short to get the nectar from corolla-tubes; so how did they live, unless the corolla-tubes were too short to withhold their nectar? Then the flowers so lengthened their tubes as to bar bees from getting their nectar and cross-fertilizing them; and the bees' tongues so lengthened that they could get the nectar and fertilize the flowers. Of

DR. MILLER'S FARM-WAGON LOADED WITH BEES FROM THE OUT-APIARY.

course this was all since the time when flowers had no nectar at all, and bees had no use for honey, but made their living in some entirely different way. However, we must sadly admit that no assumption and logic based on natural selection can satisfactorily explain the uniformity of color in worker-bees, especially when we consider how variable in this respect are both queens and drones—the progenitors—and how shockingly they disregard all color-lines in mating; also, how little they could tell (if they wanted to know) what complexions their children would have, from the looks of each other.

But coming more directly to the subject of breeding bees, we really face the fact—which in proportion as it is known constitutes so much true science—that by careful selection we may induce changes in our bees in various directions until we reach the limit which the Creator has established; but beyond that we can go no further. The evolution of the yacht has shown continual increase of speed for many years. But the fact that this year's "Constitution" couldn't outsail last year's "Columbia" awakens us to the realization of what we should have already known, that the speed of sailing-vessels can not increase forever. A swifter yacht than "Columbia" might yet be built; but some vessel must some time be built than which none can be made any swifter. And so with bees, or poultry, or anything else domesticated. But we should strive to improve as far as improvement can be made. If we take care of the improvements, the limits will take care of themselves.

The writer does not assume to tell eminent and successful queen-specialists what they should do to better their strains; he will be content if he brings out any established truth that they may have overlooked, or the "laity" have forgotten. It is a mistake to assume that development can be carried on in only one direction at a time. Our Italian bees may be made (and they have been made) better in more respects than one. To take any one example among domestic animals: the Houdan fowl was in some period bred into one having a large, shapely crest and muff, a peculiar comb, regular characteristics of color, good size, great prolificness in egg-laying, and small amount of offal, and with the sitting instinct about entirely bred out. And with all this the fowl is hardy and strong. Now all these make a great many features to work for in the same breed, but the result was surely achieved. And we can find the same to be true of too many varieties of fowls, cattle, etc., to be mentioned. Hence we may conclude that we need not look to long tongues alone in breeding bees. We can carry on simultaneous improvements in hardiness, length of life, length of tongue, gentleness, beauty, and other points, until we reach the bounds of each. Do not, therefore, decry any one of these because it is not what you have been developing heretofore; and do not be in such great haste to develop one that you forget to keep up the others. It is true that inability to control queen-mating is a great handicap; but enough has already been done to show that progress can be made despite this obstacle; and, besides, those who make so much of natural selection must admit that it has less control of mating of queens and drones than man can exercise.

The idea is often advanced that crossing would be a means of improving varieties. This does not seem in keeping with all the facts. If crossing carries the better points of parents into the offspring, it carries the poorer ones as well. In crossing you cannot say what shall or shall not be perpetuated. From its very nature crossing does not carry characteristics bodily from either parent so much as it divides or averages those of both. If each had one good point carried to excess, the cross might make a better average; but its greater variability, resulting in more types to select from, would be offset by the greater difficulty of making the mongrels uniform and stable. Hence, there is more hope in selecting from the best among established varieties, because each step is more easily kept.

And, finally, it should be urged upon the masses of apiarists to patronize the regular queen-breeder. Especially does this apply to those who live in districts rich in honey and filled with bee-keepers. You are far more at your neighbor's mercy and under the power of wild bees than is the case in any other kind of stock-raising. The majority of your neighbors will not try to improve. No matter what you may try to do in the way of bettering your stock, you must lose it through the swarms of drones from inferior stock produced around you. You must, more or less often, have recourse to the permanent improvements made by breeders who have succeeded in getting places where their own drones mate with their queens. You thus help yourselves, and at the same time help the the breeders to maintain the business which you would be sure to miss should it fail through lack of patronage.

Monterey Co., Calif.

Quoting the Honey Market—Other Matters.

BY FRANCISCO BROWN.

I WISH to add my approval to that portion of Mr. Cooley's criticism, on page 563, in reference to the commission-houses quoting fully up-to-date. I *am particularly interested* in the market quotations, but I wish them *up-to-date.* There is a feature in one of the bee-papers, if no more, of which I *distinctly disapprove*, in reference to said quotations, and that is, a house, quoting regularly, depreciating the bee-keepers' interests by cry of "overstock," or words to that effect, and creating the impression that the price is going down, and then saying, "We are not a commission firm." This kind of quotation is simply advertising their own honey. I wonder if the publishers of that paper would give all the rest of us a standing "ad" by telling them honey was worth so and so. I'll warrant the honey-dealer referred to does not tell his customers that honey is "down," "big crop," etc. I have dealt with commission-houses in honey for 15 years. Some, like the Horrie-Wheadon concerns, have treated me scandalously, and others have treated me remarkably fair. Under the present conditions of business we cannot well get along without the honest commission men. In some instances the producers are the gainers by consigning their product—not selling outright. How? Why, if we have a fancy, gilt-edged article, it brings the top price when buyers bid against each other. When we wish to sell outright, maybe only one or two buyers come along. For my part, I want the commission man, and I want him to know that I am alive—to my business; that the house that gets me the best price is the one that handles my honey. I have been converted to this decision more than once. To illustrate:

I once had a crop of extracted honey that I wanted to sell outright. I offered it at 8 cents, and would have taken 7. After sending him a sample, a commission man wrote: "Send me your honey—I will sell to best advantage, and you will be the gainer." I sent it. He put it into small glasses, and sold it at 16 cents, netting me 12 cents a pound. In the course of time this man sold nearly 50,000 pounds for me, selling my

TWO COMBS IN DR. MILLER FRAMES.

One frame dripping with bees, and both so filled with sealed-brood there is no room in them for honey.

SAMPLE OF DR. MILLER'S "PAT MURPHYS."

Half-bushel (16) Carmen No. 3, weigh 28¾ lbs.; 3 largest weighed 6 lb. and 9½ oz. The stick lying on them is a foot rule. Photographed Oct. 11, 1898.

comb honey for 16, 17 and 18 cents, when the best cash offer I received was 11 and 12 cents.

THOSE "HINTS ON HIRED HELP."

Tell Mr. Hyde (page 564, "Hints on Hired Help in the Apiary") to be thankful indeed that his ideal helper is not to be found. If conditions would regulate hired help to do all we want to exact of them, Mr. Hyde and a lot of the rest of us would be hired help. It provokes me as much as anyone to see hired help do things awkwardly, carelessly, or without thought or judgment, that a little reasoning would obviate. And yet these very things are necessary, or there would be no hired help—all would be owners—for it doesn't cost much to start with bees. Its details, especially, are our capital. So do not expect hired help to furnish the capital, and give you the lion's share of the earnings. A banker once asked for a cashier. Said his friend: "I can send you an honest young man, who knows nothing of banking." "That is the man I want," exclaimed the banker, "for I can teach him my methods and system, and he will not have to unlearn knowledge that I do not want in my business." Much so with hired help, especially in the apiary. Either make a partner of the man at once, or hold yourself in reserve, and let him realize he is only a part of the machine.

LOSS OF BEES BY COMBS MELTING DOWN.

In regard to Mr. Gerelds' loss of bees by melting down (page 566), the lack of water I do not believe had anything to do with the bees. All the colonies probably melted down within the space of an hour; when the breeze lulled had they been out in a 10-acre field the loss would not have been 10 percent, if that. We have long, hot summers in Florida, often getting up to 95 and 100 degrees, and last year, in August, it was 105 and 106 degrees on two different days, still I did not lose a single colony from melting down, and in several apiaries that I am acquainted with there was no loss whatever in this line. If Mr. Gerelds will raise his colonies on benches, and will put the two rows of hives about eight feet apart, then put a roof over them, extending it well over the sides, he will have a comfortable place for his bees, and also a comfortable one to work in.

In Florida a large ant is very troublesome to bees, often destroying a good colony in a single night. If there are any to contend with, hang the benches with wire from above, instead of having legs, or attach to the posts of the shed; then daub coal-tar on the wires, and the ants will be rid of.

The most serious charge against shed-apiaries—and I have four in use, some of them several years—is the failure to get queens mated in colonies so kept. But to offset this, there is the satisfaction of having everything under cover, out of the rain, and the ease of manipulation when all colonies are close together. You can have all under lock and key by using 6-inch fence-boards on the sides, leaving a space of eight inches or a foot opposite the hive-entrances, and then stretch a strand or two of barbed wire along this. For 10-frame hives allow 20 inches space each in length of building. At one end have your work-room, made bee-tight by use of burlap or mosquito netting—I use old corn and oats sacks ripped up—in which have a table and your extracting outfit. I mention the use of burlap instead of wire-cloth on account of the latter rusting out quickly in our moist climate. Florida, Sept. 7.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

SPECIAL FACILITIES FOR MOVING BEES.

It seems that the Atchleys are so inclined to the perambulatory, pick-up-and-start kind of bee-keeping that they have 200 special hive-shells or cases into which bees and combs are put for moving, and taken out on arrival. As special wagons also are provided I infer that the cases are made of light materials—so light, and so much wire screen that they might crush on the road if the wagon body did not embrace each one and furnish the strength. How about this? Is it a winning idea; or is it too much expense? It stops, once for all, the smothering of bees—also the crushing of bees, so far as that comes from combs getting loose and thrashing around; but it can hardly stop new, weak combs from breaking out of the frames. Wonder if the imprisonment of each colony is supplemented by an outside screen over the whole concern. That would reduce to a very decided minimum the stinging of horses. I suppose one idea is that bees which do not get killed enroute, many of them have their lives shortened by what they suffer. If that's the case it may pay to spend some time and money to have the honey-gatherers arrive at honey Canaan in perfect order. Still my fancy hears some brother saying, "Too many traps and calamities;" and, "If I had such an outfit I shouldn't actually get to use it, on account of the time and fuss it calls for." Page 630.

STACHELHAUSEN AND LARGE BROOD-CHAMBERS.

Stachelhausen seems to favor decidedly the large brood-chamber. He strikes an idea pertaining to the matter which is not familiar to all of us. Let the queen lay all she can for a spell early in the season and she wants a partial rest when the main harvest is on. On the other hand, let the queen be obliged to restrict her laying to a mere fraction of what she is capable of, and her time to avenge herself will probably come eventually; and very likely it will come just when moderate laying should mean more surplus honey. It occurs to me that the very worst cases of this could happen in a very big hive with large frames, if the colony itself came through very weak in the spring. Page 630.

LEGISLATION FAVORING FRAME HIVES.

Aha! Ye legally appointed inspector, inspect he never so wisely, cannot inspect to any purpose the apiary where all the combs are built criss-cross. That is, he can't when foul brood is nicely beginning in 20 colonies, and none have yet got putrid or weak. To meet this case, our legislative man, Hambaugh, wants everybody compelled by law to have bees on actually movable frames. Sounds seductive. But if we begin with that kind of legislation where will the end be? Where, indeed, till every dog is law-bidden to wag tail, "Down, left, right, up," as the singing-master would have him? And what shall we answer if some one at the state-

HOME FROM THE OUT-APIARY.

Dr. Miller and Miss Wilson in bee-wagon used for going to and from out-apiaries, hauling home honey, etc.; drawn by "Beauty" and "Dandy."

house inquires, "Is it advisable to pass eleven laws for ten men?" Page 631.

PACKAGES FOR RETAILING EXTRACTED HONEY.

It is not so much by shouting our conclusions at one another that we shall conjure up the ultimate truth from the bottom of the well, as it is by candidly laying our real experiences side and side. Mr. Davenport finds his customers don't return packages worth a cent. I find mine, pretty much all of them, so carefully conscientious in the matter that keeping a memorandum book, to show where the out pails are, seems rather a waste of time. Are my customers so much higher in their moral level than his? Improbable. What then? The full answer to that question is not likely to be reached except by a good deal of grubbing—perchance by a good many grubbers. I'll only just begin a little at one corner of the subject. Folks of low-average honesty, if they *think* (rightly or wrongly) that they have paid too much for the contents of a package, will gobble the package itself—as reprisal in part. I have several times tried to sell in the city by means of an intermediary, he to fix his own prices, and the result is a heavy loss of pails. Page 631.

THE LEAKY HONEY-BARREL.

Davenport's experience with barrels should be noted. All leaked; both soft wood and hard wood, although dried for two years. Wax and warrant both failed. The wax cracked; and as for the warrant, honey doesn't seem to understand the meaning of a warrant at all. Page 631.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Packing Bees for Winter—Other Questions.

1. I purchased 40 colonies of black bees, 20 in Falcon chaff hives and the rest in box-hives. The entrances of the chaff hives are only ⅜ by 12 inches. Do you think that large enough for winter and summer?

2. Would you advise me to take the inner cover off of the brood-chamber and put burlap over the frames, and pack with forest leaves?

3. Would it be all right to raise the brood-chamber say ⅛ inch in the summer, or would it cause the bees to loaf between the bottom-board and brood-chamber?

4. The frames have never been manipulated in these hives, and are badly braced and burr-combed. Would you advise transferring the bees and using full sheets of foundation?

5. The hives are painted red. Do you think it advisable to paint them white?

6. Would it be well to leave the packing around the brood-chamber all summer?

7. Is there any danger of using too much bi-sulphide of carbon in fumigating the honey? Does it taint the honey? About how much should one use to fumigate 100 pounds? Does it matter in regard to quality?

8. I wish to prevent increase. What method would you recommend? NEW YORK.

DR. MILLER "TOUCHING OFF" COPY FOR THE BEE PAPERS.

ANSWERS—1. For out-door wintering such an entrance is large enough. For hot weather, and for wintering in the cellar, I should prefer it much larger.

2. That's a good plan.

3. It would be all right.

4. If combs are straight and there is no trouble except the brace and burr combs, it would be a waste to transfer. Just cut away all the superfluous burrs and braces.

5. White is generally preferred, but if hives are in the shade it makes little difference.

6. Most bee-keepers prefer to remove the packing for summer.

7. An excess is not likely to do any harm, as it evaporates rapidly. Two tablespoonfuls would be enough, or more than enough, for 100 lb of honey if placed *over* the honey and closed up tight. I think you need pay little attention to quality. See interesting discussion in the report of the Buffalo convention, page 502.

8. I hardly know; there are so many ways. One way is to double up in the fall to nearly the number you want, and, if none of them die in winter, to do some more doubling-up in spring. Another way is to remove the old queen when a prime swarm issues (if your queens are clipped they will be destroyed if you let them entirely alone), and then as soon as the first of the young queens issues—which you may know by hearing the young queen pipe in the evening—destroy all remaining cells; or, return the swarm as often as it issues with the young queen.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

OUR COUNTRY.

If there is any one thing that should make our hearts well up in gratitude more than any other thing, it is the thought of our incomparable country. True, the home comes nearest to us, and touches our hearts and lives with the best gifts. But our American homes could not exist outside of America. Britain is the only other country that comes within telephone call of us in matter of homey homes. And Britania pales, as poverty crowds comfort, health, and even life, from so many of Britain's households. Think! any boy—the poorest—can safely aspire to his own beautiful home in this grand American country. Industry and economy are sure to win thrift; and the American who does not reach competency, and a cosy, comfortable home, hardly deserves either.

I believe the best gift or possession that any boy or girl may fall heir to, is a good education. It can not be too broad or liberal. Even the day-laborer would be vastly better off with a good education. Were I to train a boy for the farm, I would have him pursue a course as thorough as that coveted by the would-be lawyer or physician. I would urge that he get all he could in the college; that he go then to the university for graduate work; and then it would do him no harm should he study abroad for a year or two. Do you say that this would illy fit him for agiculture? I know it need not, for I have the proof. Isn't it the glory of our magnificent country that any boy of will, energy and determination can, all unaided, secure all of this, if he is only so fortunate as to be an American? I know he can, for here again I have the proofs.

I have just been rejoicing in some statistics that fill my heart with gratitude as an American citizen. Our total debt now is $1,100,000,000. It was three times that at the close of the war. Yet this in the face of the fact that the war cost our Government more than $6,000,000,000, if we take direct and indirect expenses, such as pensions, etc., into account. In 1860, when our credit was at the worst, we could not borrow money for less than 12 percent. Now our 2 percent bonds are at 8 percent premium. Our present debt is $14 per capita, Russia's is $24, with a great army of people who are wholly impecunious. Even England's debt is $75 per capita; and that of France reaches the alarming

PART OF DR. MILLER'S HONEY CROP SEVERAL YEARS AGO.

sum of $150 per capita. More than this: All the debt-ladened and burden-bearing countries of Europe are sinking deeper and deeper into the slough of debt and despondency, while America is as steadily and surely rising from under the weight of even her small obligation. Under our present wise management our debt will sink to $600,000,000 in 1908, and will be all wiped out in 1920. I do not need to live to be nearly as old a man as was my father when he left us, that I may with the fullest expectancy look to see our beloved country wholly free from debt.

If there is one topic that may well claim much time about the dear home circle table it is this: "Our Country; the dearest, truest, best the world knows."

DEBTS.

It is a natural and easy step from national to personal debt. Would it be far from wrong to say that a major share of the worry and discouragement of the world comes through debt? Lifting the mortgage is the burden that holds many a man in bondage, and that darkens many a home. It is a privilege which all of us parents ought richly to prize, so to influence in the home circle that our dear ones may never smart under the severe lashings of debt. My father was a living example of the wisdom of the scriptural text, "The wages of him that is hired shall not abide with thee over night until the morning." The command, "Owe no man anything," meant to my father just what it reads. He taught us children to avoid debt as we would any other evil, and his example always enforced his teachings.

How much of unrest and discontent his kindly influence has saved me. I have never known the worry of debt. Nor has it stopped here. My children have been taught as I was, and I rest in the firm assurance that they will never be harrassed by constable, sheriff, or creditors; and thus, as "the evils of the fathers are visited upon the children unto the third and fourth generation," so, too, are the blessed influences of parents carried down not only to second and third generations, but to all our descendants.

It is so easy to contract debts when the habit is once formed. It is so hard to meet them when due. And does not the debt, like any other evil, court the lie and the fraud? And so on to the end of the gruesome chapter.

I heard a story the other day like this: A mother told a boy he must not go bathing. When he came home she said, "John, you have disobeyed me." He looked her sheepishly in the face and denied it. She said, "How, then, comes your shirt on wrong side out?" He replied, "I turned it crawling through the fence."

As surely as disobedience courts the lie, just so surely does debt court untruth, fraud, and imposture.

THE MOCKING-BIRD.

We have him in California. Just the same one that regales our friends of the Carolinas in the East, with his incomparable song. He nests in the pepper near our house. Who would not plant trees if only to attract the bird-songsters? I am glad he and his spouse have children, and lots of them. The little nestlings call forth the song. Who could sing if there were no little nestlings? He is not content with hymning his delight in the morning, but pours out his heart's best gratitude at noon and at night; and even in the darksome hour of midnight. Just now one is singing just out my window, as if he would waken, in all, the delight and gratitude he feels. He has done just this for me. I am glad of the trees, the birds, and I revel in the songs of our birds. I do not see how one "with clean hands and a pure heart" can suffer very serious worry or ennui with a concert of bird-friends ever sounding in his ears.

Satisfied People.
That's the kind that run the
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If they are not satisfied we refund their money. Larger hatches, perfect system of regulating temperature, moisture and ventilation. All these points explained in our catalog. Sent for two 2c stamps.
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Farm Wagon Economy.

The economy of this proposition is not all found in the very reasonable price of the wagon itself, but in the great amount of labor it will save, and its great durability. The Electric Wheel Co., who make this Electric Handy Wagon and the now famous Electric Wheels, have solved the problem of a successful and durable low-down wagon at a reasonable price.

ELECTRIC

This wagon is composed of the best material thruout—white hickory axles, steel wheels, steel hounds, etc. Guaranteed to carry 4000 lbs. These Electric Steel Wheels are made to fit any wagon, and make practically a new wagon out of the old one. They can be had in any height desired and any width of tire up to 8 inches. With an extra set of these wheels a farmer can interchange them with his regular wheels and have a high or low-down wagon at will.

Write for catalog of the full "Electric Line" to Electric Wheel Co., Box 16, Quincy, Ill.

Please mention Bee Journal when writing.

GENERAL ITEMS

A Good Year for Bees.

This has been a good year for bees, with the exception of a drouth we had in the middle of the season. I commenced the season with four colonies, which I increased to 11, and got about 450 pounds of honey. The colonies are all strong, with plenty of stores to take them through the winter. I winter them in a shed built for that purpose, packed in straw, and they seem to do well.

The American Bee Journal comes promptly every Thursday, and I always watch for it with pleasure. I could not get along without it.

FRED R. HAWKINS.

Edgar Co., Ill., Nov. 7.

Selling and Shipping Honey.

My attention has been called to a letter on page 670, from C. H. Harlan, who speaks of his treatment by B. Presly & Co., of St. Paul. In justice to a firm which, I believe, holds the highest reputation in the Northwest, I must say that I have shipped honey and apples to them for the past three years, and not only have they always gotten me the highest market price for my shipments, and that without any unreasonable delay, but I have never had to ask twice for a check or a settlement.

I am aware that there are quite as many black sheep among commission men as there are inexperienced shippers among honey-producers. To the former I will give no quarter if I ever come across them; to the latter I will

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.

Courtesy of the Marengo Republican.

CHURCH WHERE DR. MILLER ATTENDS.

FREE FOR A MONTH....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper published in the United States.

Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

Please mention Bee Journal when writing.

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THE FINEST IN THE WORLD.

OUR NEW 1901 FIFTY-TWO PAGE CATALOG READY.
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G. B. LEWIS COMPANY, Watertown, Wis., U.S.A.

Special Agency, C. M. Scott & Co., 1004 East Washington Street, Indianapolis, Ind.

Excellent shipping facilities and very low freight rates for Southern and Eastern territories.

Please mention Bee Journal when writing.

26 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 26 cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price. Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.25 to

Prof. A. J. Cook, Claremont, Cal.,

FOR HIS

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

PAGE

CAN'T YOU BEAR

one or two cents more on a rod for PAGE Fence? PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

Please mention Bee Journal when writing.

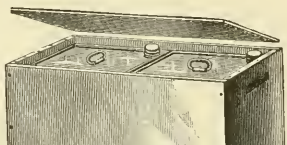
BEST

Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 8 cents per pound; four or more cans, 7½ cents per pound. Basswood Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are boxed. This is all

ABSOLUTELY PURE HONEY

The finest of their kinds produced in this country.

Read Dr. Miller's Testimony on Alfalfa Honey:

I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more marked flavor, according to my taste. C. C. MILLER.

McHenry Co., Ill.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

say, consult your "A B C of Bee-Culture" as to the safe methods of shipping comb honey, and don't be surprised if you get low prices for honey which arrives at its destination in a leaky condition.

Notwithstanding our efforts to introduce honey as a staple article of diet, it yet remains more or less of a luxury; and those who can afford luxuries can afford to insist on their grocers supplying them with clean and appetizing ones. Who can then blame the grocers for preferring a case of honey which looks clean and fresh, to one that is sticky, and consequently dirty? WALTER R. ANSELL.

Ramsey Co., Minn., Nov. 8.

Report from Alabama—Bitter Honey.

I have had fair success this year for this locality, considering the very limited time I can give to the bees, working as I do in railroad shops, and having only evenings. For the first time since I have been keeping bees they stored a surplus from white clover. I got about 200 pounds. The flow was stopped by drouth, which was followed by excessive rains; then again a very dry spell, so I got no more honey till this fall, when quite late there came a good flow, which proved to be the best fall honey I ever got here, except 2 colonies out of 26 that had bitter honey (from yellow fennel). I do not know the source of the rest, but from the time the flow commenced I noticed a peculiar, faint, sour smell from the hives, stronger in the night; this odor is slightly noticeable in the honey, which was so very thick that it was hard to extract, and candied solid in a week or 10 days, exactly the color of butter. I got about 30 gallons. Have you any idea what plant they got it from? ALBERT E. ISAAC.

Morgan Co., Ala., Nov. 5.

[We can not even guess as to the source. Perhaps some of our Southern readers can tell.—EDITOR.]

Introduction of Queens.

MR. EDITOR:—I am not greatly interested in the philosophical discussion between Messrs. McNeal and Whitney, but I am interested in the matter of introducing queens; and if there is some way easier than the usual ones I want to know it. If Mr. McNeal's plan of introduction may be relied on as safe, there will be advantage in using it, but sometimes a little deviation will result in failure. In one respect his instructions seem hardly explicit enough. He says: "Do not smoke the bees constantly, but smoke and pound alternately, for two or three minutes only." That may mean to smoke two or three minutes, then pound two or three minutes, then smoke two or three minutes, and so on. If that is the meaning, will he please tell us how long, in all, the pounding and smoking is to be continued? It may, however, mean that the whole time of pounding and smoking is to be only two or three minutes. If that is the meaning, will he please tell us how long to smoke each time, and how long to pound? For it might make some difference whether

Standard Bred Queens.

Acme of Perfection.
Not a Hybrid Among Them.

IMPROVED STRAIN GOLDEN ITALIANS.

World-wide reputation. 75 cts. each; 6 for $4.00.

Long-Tongued 3-Banded Italians

bred from stock whose tongues measured 25-100 inch. These are the red clover hustlers of America.

75c each, or 6 for $4.00. Safe arrival guaranteed. **FRED W. MUTH & CO.,**

Headquarters for Bee-Keepers' Supplies,
S.W. Cor. Front and Walnut Sts.

Catalog on application. CINCINNATI, O.

Please mention Bee Journal when writing Advertisers.

the change from smoking to pounding, and from pounding to smoking, was made every two seconds or every thirty seconds.

Another thing: If I understand correctly, it is somewhat important that the queen to be introduced be in the full tide of laying; or, in other words, that she be taken from one hive and put directly into another without any material stoppage in laying. If that be so, it will be of very little practical use to many. At the most, it could only be of value in the case of taking a queen from a nucleus to be introduced to a colony in the same yard. But will Mr. McNeal tell us what about a queen received through the mail—caged for several days? Or a queen taken to an out-apiary?

It will also help to decide as to the value of the practice, if Mr. McNeal will tell us how many times he has tried the plan, and how many failures, if any, he has had. A. V.

Use of Bisulphide of Carbon.

In the convention proceedings, pages 692 and 693, Mr. Benton, in speaking of the use of bisulphide of carbon as a destroyer of the bee-moth, raises the question whether any one had advocated this prior to his doing so five or six years ago. I wish to state that in the files of the American Bee Journal of 12 to 15 years ago (during Mr. Newman's time), there is a short statement as to its use for that purpose by G. R. Pierce, of this State. Mr. Pierce does not now reside where he did, and his present residence is unknown to me, but I thought it no more than fair to make this statement in his behalf. N. P. SELDEN.

Benton Co., Iowa, Oct. 31.

Selling Honey and Other Things.

"Good evening, Mr. Hustler, I am glad you came, for if I don't talk about bees once in a while I get lonesome."

Now, Mr. H. lives some 10 or 12 miles from my place, but he comes this way once in awhile to buy lumber, as there is a sawmill in the woods near us, and he picks what trees he wants to fill his orders with; so he stays around town till they are sawed, as he wants them at once, and then he has a little time to talk bees.

"Yes," says he, "I have been stirred up lately over some articles of Doolittle's in Gleanings in Bee-Culture and the American Bee Journal. In the former he has an article on selling honey, which coincides with my idea of the way honey or anything else should be pushed off your hands, and the 'tin' gotten into your pocket."

"That is all right," says I, "but a good salesman doesn't have to lower the price in order to sell, as he advises. There are always two sides to all questions, and both sides should be made public, for a thing might work well in one locality and not in another. For instance, suppose I sold my honey for one cent per pound less than it would net me wholesale in the city markets, as I understand by his advice, that is, to sell at 12 cents per pound when it is quoted at 15 cents in the bee-papers, it costing the two cents to market it. Now, I have 1000 pounds of honey to dispose of, and can manage, by a little push, to sell 700 pounds of it to families in my vicinity for 12 cents, and have 300 pounds left to dispose of, what can I do with the balance? It will not pay me to go over the ground again, for the sales will be so slow that I could not get pay for time, and I do not want to keep it over till next year, so I would better sell it at some price, and as there is not enough to sell on commission I go to my village store and try to get them to take it; they will not handle it short of two cents per pound, and as I have already sold it under their noses for 12 cents, I can not expect to get more than 10 cents for it, so I dispose of the balance at that price. Now, don't you see, you have the market price at 12 cents retail and 10 cents wholesale, which would be the price everywhere, should bee-keepers follow Doolittle's advice generally. It might be well enough in certain localities, where everything else is cheap, but in my section of the country, where I am getting 20 cents per pound retail, and $2.00 for 12 pounds at the stores, it would not work at all.

"Now, bear in mind that if Doolittle's advice is followed throughout the country (and of course he meant it for all localities), the selling price would be 10 cents per pound wholesale, for the storekeepers would pay no more to the city dealers than to the farmer so long as they can buy of the latter. But there might come a time when they could not buy of the bee-keepers, and, the city dealer, seeing his chance to keep the man's trade, sells him honey for 10 cents per pound, until finally the price will drop to that figure; then, of course, the commission men will have to sell at 10 cents or less. The freight and commission will have to come out of that, which, according to Doolittle, will bring the honey down so the producer will not realize more than 8 cents, and which will now be the established price. So you see the bee-keeper will have to start all over again, and in the end find himself as bad off as ever. This underselling is one reason why the prices are so much lower now than they were a few years ago."

"Oh yes," says Mr. H., "I see now why men should not jump at everything that is printed in the bee-papers, or in any other papers, before considering both sides. I know I once bought some honey-jars that were recommended very highly, and what they had to say about them in their catalog might be all true, but after they had been washed and filled with honey they would break standing still, and so, of course, were good for nothing.

"That 'General Rejoinder' article on long-tongued bees suited me to a dot. The way he accused some people of pushing things in a sort of one-sided way, without at the same time trying to draw out the truth on the opposite side, so that both sides would have an equal show, was pleasing."

"I want to interrupt you there," Mr. H. "Not that I like to see things presented in a one-sided way in the reading columns of a bee-paper in order to sell an article, but whenever anybody has anything new I want to see it shown up in the reading columns of the bee-papers, for, had I not seen some new ideas advanced in the body of the papers, I would be all behind the times now, for I do not study the advertisements enough to 'catch on;' but I don't by any means believe in showing up only one side. I believe, when any one has an article to sell, he should give the bad qualities as well as the good. I know it is not always good policy, if you want to make a sale, to show up the worst side prominently, nor is it natural for people in general to do so. A salesman who does not show the good qualities and leave out the bad, is not considered a good man; but I am talking for the interest of the buyer now. There once lived in this town (say 50 years ago) two good men, one by the name of Collar and the other by that of Chandler. Now, Mr. Collar had a cow to sell, and Mr. Chandler wanted to buy one. The latter thought himself a shrewd buyer, and when he got caught he would not squeal, as some do. Mr. Collar told the truth so far as he told anything, but he did not think himself bound to tell any more than was asked. He answered all of Mr. Chandler's questions—that the cow was orderly, would not kick, gave a good quantity of milk, and good milk. She was in good condition, and her teats were not sore, and she did not leak her milk. Mr. Chandler was very particular about asking in regard to the cow leaking her milk. After he had asked all the questions he could think of, he bought her at a fair price. He got her home and tried to milk her, but at first could not get a drop, she milked so hard. Well, the next Sunday, when he met Mr. Collar at church, he took him to one side and said, 'I thought you told me that cow would not leak her milk.' That was all the kicking there was about it. You can see the moral."

"Good bye." J. L. HYDE.

Windham Co., Conn., Sept. 7.

ALWAYS READY.

The ADAM Green Bone CUTTER

is always clean and ready for work. Impossible to choke it up. Cleans itself. The Only Bone Cutter with all ball bearings. Works quickly and easily. No choking or injuring of fowls by slivers or sharp pieces. Cuts a clean light shave that is easily digested by smallest chicks. Send for Catalog No. 9. Contains much valuable information on the cut bone question. You will be pleased with it. Sent free upon request.

W. J. ADAM, JOLIET, ILLS.

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Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

Please mention Bee Journal when writing.

200-Egg Incubator for $12.80

Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.

GEO. H. STAHL, Quincy, Ill.

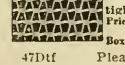
Please mention Bee Journal when writing.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,

144 & 146 Erie Street, CHICAGO, ILL.



FENCE! STRONGEST MADE. Bull-strong. Chicken-tight. Sold to the Farmer at Wholesale Prices. Fully Warranted. Catalog Free. COILED SPRING FENCE CO., Box 89 Winchester, Indiana, U. S. A.

47Dtf Please mention the Bee Journal.

For Thanksgiving Day

the Nickel Plate Road will sell tickets within distances of 150 miles Nov. 27 and 28, at rate of a fare and one-third for the round trip. Tickets good returning until Nov. 29, inclusive. This road has three express trains daily to Fort Wayne, Cleveland, Erie, Buffalo, New York and Boston, with vestibuled sleeping-cars. Also excellent dining-car service; meals served on Individual Club Plan, ranging in price from 35 cents to $1.00. For reservations in sleeping-cars or other information address John Y. Calahan, General Agent, 111 Adams St. City Ticket Office, 111 Adams Street, Chicago. 'Phone 2057 Central. 42-46A2t

1901—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog.

M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

Please mention Bee Journal when writing advertisers.

Queens for Breeders.

"Breed from the best" has been the watchword with myself as well as others. F. B. Simpson, in Bee-Keepers' Review, says we're off. Given five queens from the same mother, which five queens uniformly yield about 40 pounds more than the average, and another five from another mother, which five zigzag all around from 35 below to 90 above the average, and he will breed from the first five rather than from the one that runs 90 above the average. Now, if F. B. will tell us, as I am afraid he will, that all intelligent breeders of note will agree with him, I'll promptly 'bout face and stand in line with him; but if he's only giving his own opinion, I've a choice assortment of abusive epithets laid up for him, and a lot of brickbats to fling at his battlements. I ought to explain that he reasons that the one that runs 90 above the average is a freak that will not give uniform results, while the five of the other mother, being uniform, may be relied upon for future results.—[The recommendation of F. B. Simpson is one that we have been carrying out in practice for several years. A breeder whose queens are irregular, zigzagging from one extreme to the other, is one that will cause complaints from customers; but one that will give uniform results in markings, in prolificness, in gentleness, in every one of her daughters, is the one that we select for a breeder—providing, of course, that these daughters all score a high average; but if Mr. S., or any one else, can find a mother, the bees of whose daughters will average in number of pounds of honey about the same under like conditions—well, we can not do it. The daughters of our best breeder nearly all score well in honey, but there is quite a variation. While the poorest will be no worse than the average, the best will be considerably better. —EDITOR.]—Stray Straw in Gleanings in Bee-Culture.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white).....	$ .60	$1.00	$2.25	$4.00
Sweet Clover (yellow)....	.90	1.70	4.00	7.50
Alsike Clover	.90	1.70	3.75	7.00
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.

POULTRY PAPER.

Send 25 cents for a year's subscription to our Journal, and we will send book, Plans for Poultry-Houses, free. Six months trial subscription to Journal, 10 cents.
INLAND POULTRY JOURNAL, Indianapolis, Ind

20Dtf Please mention the Bee Journal.

Send for circulars regarding the oldest and most improved and original Bingham Bee-Smoker. FOR 23 YEARS THE BEST ON EARTH.
25Atf **T. F. BINGHAM, Farwell, Mich.**
Please mention Bee Journal when writing.

Breeding for Uniformity.

Readers of the Bee-Keepers' Review who have been accustomed to be told that they should always breed from the best, will gasp when told by F. B. Simpson that instead of breeding from their best they should breed from those that are only a little above the average if they are to have any *permanent* improvement. He says:

The breeding of queens often recalls to my mind the "fooling the public" adage with variations: "We can breed ideal queens once in awhile, we can average fair queens, and we too often produce worthless ones, but we can not uniformly produce superior queens." Why can we not? Simply because the majority have for years bred their bees on a principle founded on a fallacy—they have continually bred from the least uniform, hoping to obtain uniformity!

FOR GETTING NEW SUBSCRIBERS.

Red Clover Queens FOR 1902 Free

Long-Tongue Variety—Warranted Purely Mated.

We have already arranged with the queen-breeder who furnished Long-Tongue Red Clover Queens for us during the past season, to fill our orders next season. Although fully 95 percent of the untested queens he sent out were purely mated, next season all that he mails for us will be **warranted** purely mated.

We want every one of our present subscribers to have one or more of these money-maker Queens. We have received most excellent reports from the queens we supplied during the past season. And next year our queen-breeder says he expects to be able to send out even better Queens, if that is possible. He is one of the very oldest and best queen-breeders. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, of beautiful color, very gentle, scarcely requiring veil or smoke.

Orders for these fine, "long-reach" Warranted Queens will be filled in rotation—"first come, first served"—beginning as early in June as possible. It is expected that orders can be filled quite promptly (even better than the past season), as a much larger number of queen-rearing nuclei will be run. (But never remove the old queen from the colony until you have received the new one, no matter from whom you order a queen).

All Queens will be guaranteed to arrive in good condition, and will be clipped, unless otherwise ordered.

A Warranted Queen for sending us Only 2 New Yearly Subscribers

In order that every one of our subscribers who wants one of these Warranted Queens next season can easily earn it, we will book your order for one queen for sending us the names and addresses of **two new subscribers** to the American Bee Journal and $2.00. FURTHERMORE, we will begin to send the Bee Journal to the new subscribers just as soon as they are received here (with the $2.00), *and continue to send it until the end of next year, 1902*). So, forward the new subscriptions soon—the sooner sent in the more weekly copies they will receive.

This indeed is an opportunity to get a superior Queen, and at the same time help swell the list of readers of the old American Bee Journal.

We are now ready to book the Queen orders, and also to enroll the new subscriptions. Remember, the sooner you get in your order the earlier you will get your Queen next season, and the more copies of the Bee Journal will the new subscribers receive that you send in. We hope that every one of our present readers will decide to have at least one of these Queens. Address,

GEORGE W. YORK & CO., 144 & 146 ERIE STREET, CHICAGO, ILL.

How frequently we see the remark: "Whenever I see one queen's colony outstripping everything in my yard, I select her to breed from." As an example, suppose 10 colonies have given the following yields in pounds of honey: 25, 20, 150, 45, 60, 75, 45, 70, 50, 60. Suppose all are equally well bred; the 150-pound queen is "selected." Suppose we find that the first five queens were from one mother, and the last five from another, both of which breeders had given a comparative yield of 60 pounds each. It is evident that the selected queen is the least *uniform*, individually, and also one whose blood shows the greatest variation and the greatest number below the average (it will be noted that the average for each five, and therefore for all, is 60 pounds). We know that 60 percent of her sisters gave yields below that of their mother, and we also know that the average we can expect from her must be far below her own record, and as she is the most variable (from her mother as well as from the average), we can naturally look for even a greater percent of her offspring to go below the average—in short, we are practically certain to get retrogression and degeneration instead of progression; simply because we are breeding from an *individual freak*, instead of from the most consistent representative of the best blood. On the other hand, the second breeding-queen shows but two, or 40 percent below the average, whereas 60 equal or exceed the average, and, therefore, their mother's yield. Therefore, I would breed from the 75-pound, the 70-pound, or the 60-pound queen, from the second mother.

Light Laying for Feeding Queens.

"Ridiculous" is the label that F. B. Simpson, in Bee-Keepers' Review, puts on the notion that keeping a queen in a nucleus will beget longevity in her offspring. Sure. But it had escaped me that any one advocated such a notion. He says his breeders must do their duty in a full-sized hive, so he can compare them with others. All right, F. B.; but after a queen has fully established her reputation I like to give her a light job so as to keep her as long as possible. A queen I'm now trying to winter was born in 1897. After doing extra work during four years I felt she would be insulted if I had said, "Now, let's see what kind of stuff's in you," so I gave her a soft job for 1901.—[You are doing with your breeder just the very thing that we are doing with our best queen.—EDITOR.]—Stray Straw in Gleanings in Bee-Culture.

Beeswax from Different Countries.

This will by no means always be found the same. An interesting summing up of the different kinds is given in Gravenhorst's Bienenzeitung, and thus translated in the American Bee-Keeper:

In Austria the wax is found or produced in the southern portion, equalling the wax produced in buckwheat localities. The provinces of Bohemia, Moravia and Galicia produce a soft wax, although a distinction has to be made between the wax from the western part of Galicia and that from the eastern part. That from the first-named locality has a pitchy odor, while the other possesses the common odor of wax; is red or brown-yellow, and fairly hard. The best of all known waxes is that from Turkey; it is red in color, and demands the highest price. The wax from Greece and its islands is nearly equal to it in quality. The southern part of France produces wax of better quality than the north. The wax from Spain is about as good as the best produced in France. Italy produces much good wax.

The wax of India is a grayish-brown, and has almost no odor. The wax produced upon the Islands, as Timor and Flores, etc., is of importance. Quantities of the product have been exported to China, where a great deal is consumed and also produced.

Egypt, Morocco and the Barbary States furnish a considerable quantity of very impure wax. Beeswax from the Senegal is rather poor and dark-brown in color, accompanied by an unpleasant odor. Very good wax is produced in Guinea; it is hard and yellow, about as good as Russian wax. The American wax is usually dark and difficult to bleach. From Guadaloupe black wax from wild bees is brought into the markets. It can not be bleached out.

CONVENTION NOTICES.

Chicago.—The executive committee of the Chicago Bee-Keepers' Association has ordered that the next meeting be held all day and evening, Dec. 5, 1901, at the Briggs House club-room. This is arranged on account of the low rates to be in force then for the International Live-Stock Exposition in Chicago at that time (Nov. 30 to Dec. 7), being one fare plus $2.00 for the round-trip This notice goes by mail to nearly 300 bee-keepers near Chicago, and should result in the largest attendance we have ever had. Dr. C. C. Miller and Mr. C. P. Dadant have promised to be present. Let all come.

HERMAN F. MOORE, Sec.
GEORGE W. YORK, Pres.

Minnesota.—The Minnesota Bee-Keepers' Association will meet in Plymouth Church, Cor. 8th St and Nicollet Ave., Minneapolis, Minn., Wednesday and Thursday, Dec. 4 and 5, 1901. Mr. W. Z. Hutchinson will give a stereopticon lecture on Wednesday evening, and a good program is prepared and now in the hands of the printer. Joining the National Bee-Keepers' Association in a body will be voted on Wednesday. All bee keepers and those interested in bees are invited. H. G. ACKLIN,
Chairman Executive Committee.

New York.—There will be a bee-keepers' convention (annual) held in Canandaigua, N. Y., by the Ontario Co., N. Y., Bee-Keepers' Association, Dec 13 and 14, 1901.
Naples, N. Y. FRIEDEMANN GREINER, Sec.

Wanted Fancy White Comb Honey in no-drip cases; also Extracted Honey. State price, delivered. We pay spot cash. FRED W. MUTH & Co., Front & Walnut Sts., Cincinnati, Ohio. Reference—German National Bank, Cincinnati.
40A5t Please mention the Bee Journal.

Wanted Comb and Extracted Honey!
State price, kind and quantity.
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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Nov. 1.—The market is easier in tone, white prices are nominally the same, but would be shaded to effect sales. Some cars of honey enroute to the Eastern cities have been diverted to this and surrounding points, which is having a depressing effect. Comb brings 14@15c for best grades of white; light amber, 12@13c; dark grades, 10@11c. Extracted, white, 5½@6½c, according to quality, flavor and package; light amber, 5¼@5½c; amber and dark, 5@5¼c. Beeswax, 28c. R. A. BURNETT & Co.

CINCINNATI, Oct. 25.—The honey market is rather dull on account of the warm weather. Extracted sells only to manufacturers from 5@6c; better grades alfalfa water-white from 6@7c; white clover from 8@9c. Fancy white comb honey sells from 13½@15½c.
C. H. W. WEBER.

ALBANY, N. Y., Oct. 25.—Honey in good demand now, as this is the most satisfactory time to sell. Grocerymen are stocking up and will buy lines, when late they only buy enough to piece out. Fancy white comb, 15@16c; mixed, 14@15c; buckwheat, 12@13c. Extracted, white, 6½@7½c; mixed, 6@6½c. H. R. WRIGHT.

OMAHA, Oct. 25.—New comb honey is arriving by express in small quantities from Iowa and Colorado, and selling at $3 50 per case in a retail way. California extracted honey is being offered carlots at 4½@4¾c per pound, f.o.b. California shipping-points, but we have not heard of any sales having been made thus far. The production of extracted honey seems to be quite large this year in Colorado, Utah and California. PEYCKE BROS.

NEW YORK, Nov. 8.—Comb honey is in good demand, and while the market is not overstocked, receipts are sufficient to supply the demand. Fancy white sells at 15c, with an occasional sale at 16c for attractive lots; No. 1, white, at 14c; No. 2, at 13c; fancy buckwheat, 11@11½c; No. 1 and 2 at from 10@10½c. Extracted remains quiet at from 6@6½c for white, and 5½@5¾c for amber. Very little demand for dark at 5¼@5½c. Beeswax quiet at from 27@28c. HILDRETH & SEGELKEN.

BOSTON, Oct. 21.—There is a fairly good demand for stocks with ample supplies at the present writing. Fancy No. 1, in cartons, 15½@16c; A No. 1, in cartons, 15@15½c; No. 1, 15c; very little No. 2 is being received; glass-front cases will bring about ½c per pound less. Light California extracted, 7½@8c; Florida honey, 6½@7c. BLAKE, SCOTT & LEE.

DES MOINES, Oct. 25.—There is very little doing here in new crop of honey. Some small lots of near-by produced comb honey are on the market and selling in a retail way at $3.50 to $3.75 per case. We do not look for much trade in this line before Sept. 1. Our market does not consume a great deal of extracted honey.
PEYCKE BROS. & CHANEY.

DETROIT, Oct. 25.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.
M. H. HUNT & SON.

SAN FRANCISCO, Nov. 6.—White comb, 10@12 cents; amber, 7@9c; dark, 6@7 cents. Extracted, white, 5½@—; light amber, 4½@—; amber, 4@—.

Shipments from this port by sea for the season to date aggregate nearly 4,000 cases, mostly extracted, while for corresponding period last year the quantity forwarded outward by water routes did not exceed 1,500 cases. In values there are no appreciable changes to record, market showing steadiness.

KANSAS CITY, Oct. 25.—Up to the present time only small lots of new comb honey have been on the market, and these met with ready sale on the basis of 15@16c per pound for fancy white. For next week heavier receipts are expected and quotations are issued at $3.10@$3.25 per case for large lots, which would be equal to about 14@14½c; the demand being quite brisk, a firm market is anticipated. Inquiries for extracted are a little more numerous, but large buyers still seem to have their ideas too low. In a small way 5½@6c is quotable.
PEYCKE BROS.

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Apiary of 50 cols. Ital.; 10-fr. Lang. for Ext. and comb; good locality; all fixtures; and farm if wanted. DR. G. W. BISTLINE,
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Our Managers. We have secured as managers Mr. Udo Toepperwein, formerly of Leon Springs, and Mr. A. Y. Walton, Jr., both of whom are well known to the bee-keepers of South and Central Texas. They are also thoroughly familiar with practical bee-keeping and all matters associated with it, and any orders sent to this branch will receive prompt, careful attention.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., NOVEMBER 28, 1901.

FORTY-FIRST YEAR No. 48.

MR. J. T. ELLIOTT AND APIARY, OF BROOKE CO., W. VA.—(See page 754.)

THE AMERICAN BEE JOURNAL

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GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

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The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

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National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

EDITOR W. Z. HUTCHINSON gave us a short call on Saturday, Nov. 16, when on his way to attend the meeting of the Colorado Bee-Keepers' Association at Denver, held last week.

EUGENE SECOR, the general manager of the National Bee-Keepers' Association, was recently elected to the Iowa Legislature by a handsome majority. He expects to spend the winter in Des Moines, the State capital.

MR. C. M. SCOTT, for some years the manager of the G. B. Lewis Co.'s bee-supply branch at Indianapolis, Ind., has bought the business at that place, and will continue it under the name of C. M. Scott & Co. Mr. Scott is very highly commended by the Lewis Company, and we trust he may continue to do a successful business.

MR. W. L. COGGSHALL, one of New York State's most extensive bee-keepers, has been in very poor health for some time. Lately he went to a sanitarium about 40 miles west of Chicago, where he is receiving treatment. On Nov. 15 he wrote us that in two or three weeks his physician expected to send him home well. Mr. Coggshall's many friends will be delighted to hear this. If well enough he may attend the Chicago convention at the Brigg's House, Dec. 5.

MRS. N. NEILSON, of Sac Co., Iowa, died of cancer Nov. 11, after months of suffering. In 1882 she married Mr. N. Neilson, who, with five children, are left to mourn her departure. She was a member of the Congregational church from her young girlhood. A local newspaper says Mrs. Neilson was an amiable, thoughtful, patient, loving wife and mother, showing in her life the noble qualities of a high Christian character, and winning unto herself a host of warm friends who deeply feel their loss. Our sincerest sympathy goes out to the stricken husband and children, who, it is a satisfaction to note, "mourn not as those who have no hope."

DR. C. C. MILLER has this to say regarding the meetings of the Board of Directors of the National Association at Buffalo, and also something about certain discussions in open convention:

MR. EDITOR:—Those unfortunate Directors' meetings held while the convention was in session at Buffalo, deprived me of the privilege of hearing a considerable part of the discussions, which probably makes me appreciate all the more the excellent and full report you are now giving in the columns of your journal.

Referring to a discussion on page 726, I may say that I have many a time set a hive containing a nucleus in place of a swarming colony, so as to allow the returning swarm to enter the nucleus, and in no case have I ever known the queen of the nucleus to be molested. Of course the old colony was removed, and the queen that issued with the swarm was also disposed of.

It is not often that as much real information is given in as short a space as in the discussion of the succeeding topic. All of the items mentioned are useful in trying to determine the presence of a virgin queen when she can not be found. Perhaps none of them may be relied upon implicitly. But they will help. The one that I have depended upon as much as any other for years, is the one mentioned by W. L. Coggshall—cells polished out in the central part of the brood-nest ready for the queen to lay in; and this may be several days before the queen is ready to lay, sometimes when she is hardly a day old. Somewhat strangely, I do not remember to have seen this mentioned in print, and this shows one good thing in conventions, bringing out from such men as W. L. Coggshall things that they would never take the trouble to write.

C. C. MILLER.

MR. J. M. HOOKER, as may be seen in a late number of the British Bee Journal, has sailed from England for his new home in America. His loss will be keenly felt by the British Bee-Keepers' Association, Mr. Hooker having been one of the seven who originally met to organize the Association, and one who was always foremost in the movement to establish modern bee-keeping. Mr. Garratt probably spoke the general feeling when he said that to hold a conversazione without the presence of Mr. Hooker was alone a marked event, and he was sure that everybody who had been accustomed to see that gentleman there would feel that the cause had suffered a severe loss by his absence. Mr. Hooker is cordially welcomed to these shores.

MR. J. T. ELLIOTT AND APIARY are shown on the first page this week. When sending the photograph, Mr. Elliott wrote as follows:

EDITOR YORK:—I send you a picture of my apiary, but it does not show up very well, as it was impossible to get a good view, showing all the hives, etc., on account of the trees and shrubbery. I keep my bees on a city lot, so I have not much extra room for them. I have them under young apple and peach trees, just over the bank at the edge of the garden. The hives being down just over the edge of the bank is why they do not show up better.

I have 24 colonies, all in one row, and work them for both comb and extracted honey. As I am employed as clerk in a railroad office, I do not get much time to work with the bees, only a very few minutes at the noon hour, and a little while mornings and evenings, when the weather is favorable. I find great pleasure in working with the bees, and find them very profitable, also in supplying my table three times every day with honey, which is more healthful than jellies, jams, etc. Then I can dispose of all my surplus honey to my neighbors at a fair profit. My bees did fairly well the past season, the surplus all being from basswood and sweet clover.

J. T. ELLIOTT.

THE DELINEATOR.—The Christmas number of the Delineator is about the first of the special Christmas issues. It is a beauty. The cover is a most artistic production, showing a beautifully gowned woman, standing gracefully in a brilliantly lighted salon. Two charming love stories, one by Cyrus Townsend Brady; plenty of advice regarding Christmas Gifts; timely pointers on Cookery; Winter-time Care of Plants; all the fashions of the day interpreted into simple language, can be found in the Christmas number of the Delineator. It is a splendid magazine, satisfactory inside and out. There is no magazine for women at present published that is more practical in all its pages. As a Xmas gift itself, it bears its own recommendation. $1.00 a year, or 15 cents a copy. Butterick Publishing Co., Ltd., 7 to 17 W. 13th St., New York, N. Y.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., NOVEMBER 28, 1901. No. 48.

Editorial.

The Chicago Convention is to be held next week Thursday—Dec. 5—beginning at 10 a.m., at the Briggs House, northeast corner of Randolph St. and Fifth Ave. There will also be an evening session.

We are expecting a large attendance, as there are many bee-keepers in Chicago and vicinity, and we have received notice from a number from a distance who expect to be present.

Come, and bring with you as many questions as you would like to have answered. Dr. Miller has promised to come, and bring with him a good supply of answers, which, with the other able experts that are expected to be present, there ought to be no difficulty about taking care of several boxes of questions. There will also be a few papers on practical topics, that will help start interesting discussions.

Come along, and help make this meeting of the Chicago Bee-Keepers' Association equal to the best "Northwestern" ever held.

Comb Honey by Weight or Case,—On another page Messrs. R. A. Burnett & Co. write on the subject of selling comb honey by the case or by weight. We agree entirely with them. In our opinion there can hardly be any valid reason advanced in favor of selling comb honey by the case to wholesale dealers, or to retailers. We have handled quite a good deal of comb honey, but have never bought any by the case, except in one instance where we had it sold before getting it ourselves, and our buyer being willing to take it by the case. For our own grocery trade we do not think that we could be induced to purchase honey by the case. We would have to sell it out by weight to the retail grocers.

Sometimes selling by the case proves a great loss to the producer. We remember once hearing of a carload of comb honey that was sold to a certain firm *by the case*, on which they cleared beyond a fair profit the sum of $400; and just because they sold it out *by the pound*, the car of honey averaging enough more pounds per case to equal that amount, or enough to pay the freight. Had that car of honey been sold by weight in the first place, as it should have been, the producers would have been about $400 better off. So much for the producers standing in their own light.

We hope that bee-keepers will see that it is to their best interest to deal squarely, and not encourage a kind of buying and selling that can not well be defended as honorable and upright. Gains gotten by any other than straight dealing can be only of temporary benefit. The firm or individual whose policy is even tainted with deception, or by what is known as "smart dealing," has its days already numbered. "What shall it profit a man if he gain the whole world and lose his own soul?" There are some things of more value than dollars—their worth can not be estimated in money. A man is really worth what he *is*, not what he *has*. True character and a good reputation are everything in this life, and a "blessed assurance" of the higher and better life that is to come.

A Good Hive-Cover is a thing that is not in universal use, and the interesting discussion reported on page 725 of this journal shows that the demand for a satisfactory cover is becoming so insistent that manufacturers can hardly afford to ignore it. One trouble has been that the matter of cost has cut too large a figure. A plain board with cleat on each end can be had for a small sum, and in some respects it makes an excellent cover; but no matter how many good qualities it may have, a single bad quality, if bad enough, is sufficient to condemn it. The plain board cover has more than one bad quality, but one that is sufficient alone to condemn it is that it will twist. Cleats, *if strong enough*, may prevent warping, but cleats of cast iron can not prevent twisting, if a board is inclined to twist. Unfortunately too many of them have that inclination, and when a cover twists so that one corner lies a fourth inch or more above the hive, the days of satisfactory service for that cover are over.

Perhaps the easiest way to secure a non-twisting cover is to have it consist of two layers of wood, the grain of the two layers running in opposite directions. A dead-air space between these two layers will make the cover cooler in the hottest weather, and warmer when the outside temperature is lower than that in the hive. Such a cover covered with tin and painted might be furnished at a cost not beyond reach, and it is possible that some kind of painted paper might do nearly or quite as well as tin. Now that attention is so strongly turned in that direction, the right thing will probably be in sight before long.

The Minnesota Convention is to be held Wednesday and Thursday, Dec. 4 and 5, 1901, in Plymouth Church, corner 8th St. and Nicollet Ave., Minneapolis. The first session is at 9:30 a.m., on Wednesday. A really good program has been published in connection with that of the State Horticultural Society. This is a good arrangement, both organizations meeting on the same dates.

Besides the question-box and usual business of the sessions, we find the following special features on the bee-keepers' program:

Song—"The Honeysuckle and the Bee"—Miss Edith Dexter.

"Should We, or Should We Not, Join the National Bee-Keepers' Association?"—C. Theilmann.

Song—Wm. Reuter and Miss Mary Reuter.

"Some Facts in Favor of Joining the National Bee-Keepers' Association"—J. P. West and Mrs. H. G. Acklin.

President's Address—Wm. Russell.

Song—"Buckwheat Cakes and Honey"—Master Eddie Holmberg.

"Some Problems and Queries in Practical Bee-Keeping"—J. W. Murray.

Song—Miss Julia Mondeng.

Bagpipe Selections—Wm. Russell.

Scotch Dance—Miss Maggie Russell.

Music, Songs, etc., by Students of State Experiment Station.

Stereopticon Lecture—W. Z. Hutchinson.

"Large Hives and Prolific Queens"—W. J. Stahmann.

"Queen-Rearing"—G. R. Frye.

"Some Experience in Keeping Bees Fifty Years"—Wm. Cairneross.

Song—"Hum of the Bees in the Apple-Tree Bloom"—Little Miss Ethel Acklin.

"Disposing of the Honey Crop to the Best Advantage"—A. D. Shepard.

"Shade and Ventilation"—Walter R. Ansell.

"Wintering Bees"—J. B. Dexter.

"Bucking Against Nature with Bees"—John Collins.

Please do not forget to buy your tickets for the Horticultural meeting, and take certificates for them to get the reduced railroad rate.

Surely, that is a lively program, and exceedingly musical as well. But why shouldn't the bee-keepers during the summer imbibe the happy hum from the bees, and then pour it out for convention enjoyment in the winter-time? Those Minnesota folks are coming up, and the Colorado people must look well to their laurels, else the greatest State convention of bee-keepers will be no longer out near the great "Rockies." Hurrah for Minnesota! May its bee-keepers have a glorious time, Dec. 4 and 5.

Nominations for the National.—Editor Root, in commenting on our suggestion about having the annual national convention make nominations for the election of general manager and three directors each December, suggests that it might be unwise to change general manager very often. All right; then re-nominate him among the three candidates; and also re-nominate among the nine the three directors whose terms expire, if thought best.

See page 691 for our former editorial on this subject. It is a matter worthy of earnest consideration.

The Buffalo Convention.

Report of the Proceedings of the Thirty-Second Annual Convention of the National Bee-Keepers' Association, held at Buffalo, New York, Sept. 10, 11 and 12, 1901.

(Continued from page 743.)

The Wednesday evening session was treated to an exhibition of stereopticon views by Pres. Root and W. Z. Hutchinson.

THIRD DAY—MORNING SESSION.

The convention was called to order by Pres. Root, who called upon Dr. Miller to offer prayer.

The Canadian members present were asked to rise to their feet, and, on being counted, there were found to be 12.

F. A. Gemmill, of Ontario, Canada, then spoke as follows on the subject of

Wax-Presses and Their Use.

In regard to the matter of wax-presses, I might say that some years ago my bees had foul brood. Of course, that is a bad disease, but it is no disgrace for a man's bees to have it, but it is a disgrace to keep it; and in melting up many of the old combs I found that I could not get all the wax out—that is, those containing many cocoons and pollen—without using pressure in some form. I looked over the bee-papers and bee-books, and, among others, the "A B C of Bee-Culture," and I saw some illustrations of old presses, the Hatch press, and I combined the two and made a press, the Hatch-Gemmill press, which I think it would pay any one to use. I wouldn't say that press alone, but a press of some kind where strong pressure is used.

I might say that I tried the Doolittle plan of melting the old combs in a gunny-sack, using a large press, and as the wax was boiling the lever was brought to bear on the wax and the wax squeezed out. I tried the plan of putting them in gunny-sacks and sinking them in water. It was very good; of course, it requires quite a little boiling in order to get all the wax out. It is a better plan, maybe, than using the steam wax-press where the refuse is allowed to remain on the bottom, for this reason, that if the gunny-sack is sunk in the water at the bottom, the wax will rise to the top; in the other case, if you use the steam, the refuse will go to the bottom and remain in the cocoons and stay there unless pressed out.

Then I tried other machines, the Ferris and one or two others, and I have nothing to say against any machine, only that my experience proved that where I used either boiling water or steam I had to use the pressure in order to get all the wax out of the refuse.

I also melted combs in the Boardman, still I found that with old combs with cocoons and a large pollen-mass it was impossible to get all the wax out. If left in the extractor for a week there would still be some there; the cocoons acted as a sponge and retained it, so that I think those that have been using the solar wax-extractor for old combs and throwing the refuse away have lost quite a little bit of wax. I was quite amused at Mr. Root's reference to Mr. Mendleson buying up the slumgum in California and using a press that paid him to get the wax out of it.

I don't know that there is much that I can say. If there are any questions that you wish to ask I would be happy to answer them. I might say that my first article in regard to this matter appeared in the Review, and since that time Mr. Root has been in California and he has fallen in line with the same ideas that I had in regard to the press. We had some correspondence in regard to it, and I believe he is now manufacturing a press that I believe is a good thing. I hope to have the pleasure of trying it shortly.

F. A. GEMMILL.

Pres. Root—This question about being able to get all the wax out of slumgum is a very important matter, because bee-keepers for years have been throwing away dollars, and now they have come to know there is wax in that slumgum.

A Member—How do you avoid getting propolis in the wax?

Mr. Gemmill—The propolis will come out with the old combs, to a certain extent. In our country [Canada], however, we don't have a great quantity of it.

Mr. Betsinger—How long do you think it would take to pay for such a machine? How much does this machine cost?

Mr. Gemmill—About $3.50 to $4. But Mr. Root's machine is an improvement, in some ways. Of course, it will cost more.

Dr. Miller—Suppose that you have combs enough from which you get about 100 pounds of wax in the ordinary way. Now the slumgum from that contains yet how much wax?

Mr. Gemmill—That depends upon the method you employ. If you use the plan of sinking the gunny-sacks in the bottom of the boiling water you will get more if you boil long enough, than you will get out of a steam or solar extractor where you allow the refuse to remain in the bottom of the steamer, for the simple reason that it is retained there the same as a sponge retains water. I found that I could get more wax out by boiling according to the Dadant plan. I would get about ¾. I can get a third more, easily, than with the steam process, and a third more by using the press.

Dr. Miller—That is, a third of the wax is still left in the slumgum?

Mr. Gemmill—That is, it would be left in Mr. Root's steamer provided he didn't use the pressure.

Mr. McEvoy—No bee-keeper, in your experience, can afford to do without a press?

Mr. Gemmill—I say any man that has any colonies at all, and has any old combs to melt up. Where one has any old combs that have been used for some years, and that contain pollen and cocoons, I think that that man should use a press.

Dr. Miller—How many colonies?

Mr. Gemmill—25 colonies, anyway.

Dr. Miller—How long should the wax be boiled when the pressure is used on it?

Mr. Gemmill—I allow it to come just to a boil, and boil smartly for a short time. Just get it to flow freely. After you apply the pressure it doesn't require boiling very long.

Mr. Betsinger—Five minutes, probably?

Mr. Gemmill—About that.

Dr. Miller—I see the instructions are, in making the pressure, to turn down a certain amount, then wait awhile and turn again. Does any harm come from pressing too rapidly?

Mr. Gemmill—I find that you have got to give the wax a little time to ooze out through the cocoons. Now, there is just one point there. After you have pressed all you think you can out of it, if you use the steam, you can take a kettle of boiling water and pour on the refuse that will still remain, and that will help to free any wax that it may still contain. Then you can apply pressure again, or you can turn over the refuse two or three times and then apply it, but it will do no harm to try the hot water.

Mr. Betsinger—By using old combs and putting it through this pressure would there be any color in the wax?

Mr. Gemmill—Oh, no, it would be perfectly yellow. It is squeezed right through the combs. It is forced right through, and the dirt is retained. Of course, you will understand, in the press it is confined in a small sack that acts as a filter or strainer.

Mr. Betsinger—Will the propolis go through that, too?

Mr. Gemmill—O yes, it will go through.

Mr. Davidson—Do you think such wax is as good for making foundation as other wax?

Mr. Gemmill—I couldn't see any difference. I don't see why it should not be. There is nothing in it but pure wax.

Mr. Davidson—I find that with several grades of wax used in sections, some grades are not accepted as readily as others, and I had the idea that section foundation made with old wax, that is, wax from old combs, would not be accepted as readily as foundation made from newer wax, that is, from newer combs.

Mr. Gemmill—I must confess that I haven't had any experience in that line.

Dr. Miller—In getting out wax from combs, we are directed, or have been in the past, to break them up carefully, and to soak them beforehand. Now, is anything of that kind desirable or advisable in this method?

Mr. Gemmill—It is not required where you use pressure.

Mr. McEvoy—In regard to wax being hard and soft—the lighter color

the wax from the press the softer the wax. The wax from cappings should always be used in foundation for sections. It is nicer.

Mr. Gemmill—The cappings from combs that are melted in the solar extractor are a great deal harder. There are other things in the cappings besides wax.

A Member—I was speaking of old wax that is gotten out by any process. Doesn't wax by age lose something that it requires?

Mr. Gemmill—I couldn't say in that respect.

Dr. Miller—Now, I think you are all such careful bee-keepers that you never have combs melt in the sun. A certain bee-keeper who lives where I do sometimes has that happen, and the thing that surprises me is the amount of yellow wax that the sun wax-extractor will get; and another thing that surprises me is the softness of that wax, and I very much doubt if there is any hardness increased in that wax.

Mr. McEvoy—I think that is correct.

Mr. Callbreath—Should the combs be soaked beforehand, or doesn't that make any difference?

Mr. Gemmill—It doesn't make any difference where you use boiling water and pressure, provided you use pressure afterwards. Of course, according to the Dadant plan, you soaked the combs for 48 hours before, those having many cocoons and much pollen, and then immersing them in the boiling water. But the point is this, that if you use pressure you don't require the same amount of boiling, because you force the wax right through the pollen.

Mr. Vinal—As I was going to say, I think this foundation the bees would not accept was a soft grade of foundation, and my idea was that the wax by age loses something that the bees require in order to mould their foundation over; and a foundation not having that, the bees will not work it as rapidly as they will foundation made from new wax. This is my idea, because my bees would not work certain foundation.

Mr. Gemmill—I would like to say that since using the press, I have noticed quite a number of bee-keepers who were retaining old combs that were defective in some way, and I might mention Mr. Hall, of Ontario, for one, who was going to make foundation one day, and I got my son to go down to assist him. My son took the press down with him, and all the time he was making foundation in the forenoon he was talking press; and at the noon-hour my boy went out and got the press a-going, and got a lot of the slumgum that Mr. Hall had been throwing away, and began pressing the wax out of it. Mr. Hall looked at it a moment, and said he would get a press. He got a press and has melted up several thousand combs since, and he doesn't want any old combs around his yard now. He is a very conservative man in his ideas. I think there are many bee-keepers here who, if they were using a press with high pressure, would be pleased with the results.

Mr. Howe—This gentleman asked about foundation being acceptable to the bees after getting old. I had some foundation that was put in sections four years ago, and I kept it where it was dark, and I couldn't see but what the bees accepted this foundation as readily as they did new foundation put in this year.

Mr. Benton—I want to ask Mr. Gemmill if it wouldn't answer, in applying that pressure, to put a heavy weight on instead of being obliged to watch it and screw it down, so that it would act automatically?

Mr. Gemmill—You would have to use great pressure, and it would have to be coming down constantly.

Mr. Benton—It would be coming down constantly.

Mr. Gemmill—You would require a great weight. People have no conception of what a screw will do in regard to the amount of pounds that it will press down, and you want to be sure, in getting the press, to get a machine that will have a strong screw. You will be astonished at the amount of pressure you can use. I wouldn't recommend a weight at all; you would want to have hydraulic pressure, or something of that kind, if you were going to use a weight instead of a screw.

Mr. West—I endorse the pressure of getting out wax. I have used the pressure, as has been mentioned, of pressing under water and letting the wax rise to the top, and in every case I find it is necessary now and then to raise the screw to let the water in. But since using that, we have gotten into the habit of using a radically different way of melting our wax. We use the same tank, put our hot water and combs in, and let them melt, and then we have a dish that we lay in a cheese-cloth, on one side, and we use a large dipper—a 3 or 4 quart dipper to dip it—and get that cheese-cloth and put the pressure on there, and draw the wax out in another place. We get the wax, we think, pretty nearly clear in that way.

Mr. Gemmill—Of course, I am not informed as to the best methods of applying the screw, but I say apply the pressure in some form.

Mr. Benton—The reason why I asked the question in regard to the weight, it seems to me we ought to give our German friends some credit. We are apt to poke fun at them and call them slow, but they have been using the wax-press all the time.

Mr. Gemmill—I am not a German, and have not come in contact with any German bee-papers, but I understand that Mr. Holtermann, formerly of the Canadian Bee Journal, had made some copy of the old German press, and, of course, they were using the screw there long before I knew anything about it in that form.

A. I. Root—The Germans were original in the use of this press in connection with steam and hot water, and because they were original we named our machine "German," because we thought the credit ought to go where it belongs. I found they had used it 12 or 15 years ago.

Dr. Miller—If you are going to quote the Germans, I think you ought to go a little further and say that many of them are beginning to abandon the steam press for hot water, and they are now saying that hot water is better than the steam—under pressure, you understand.

Mr. Gemmill—By putting the combs into the gunny-sacks and sinking them under water more wax will be secured than in the steamer; the wax will rise to the top, and if you do the pressing in the hot water the water will carry the wax to the surface.

A. Laing—Last spring I melted up about 100 pounds of wax. I tried the same wax-extractor that I had many times before, and I got somewhat discouraged and discarded it for a good-sized, ordinary kettle which I used on the stove, with hot water, and I found that I made about three times the progress with the hot water in melting that I did with steam.

W. L. Coggshall—Hot water is the thing to do it with, I think. It will do it much better than steam, with me. I use an ordinary caldron kettle, and I can make 100 pounds of wax in half a day without any trouble.

Dr. Miller—Does Mr. Coggshall use pressure?

W. L. Coggshall—No, I haven't used pressure, but I think it is the proper thing to do. I usually put the pressure on by fastening a stick across the top of the kettle and then put a screen over the top and take the wax off the top. It is the proper caper. I just put an ordinary strainer over the top and move it around and take the wax off.

Mr. Laing—What kind of a kettle do you use?

Mr. Coggshall—A four-barrel kettle.

Dr. Miller—Was that called the old Jones extracting kettle? Was there pressure used?

Mr. Laing—There was pressure used. I have nothing against the pressure, but the press I had was too small for the purpose in the first place, and the steam melted it more slowly, and for that reason I melted the wax first, then poured it into the kettle and put on the pressure.

Mr. Craig—The first set of wax-presses that were sent out, that is with the pressure, was an attachment to what is known as the old Jones press, and we found that it required too much heat to generate the steam and so we discouraged that, making a machine with a copper bottom that sets down in the stuff like an ordinary tea-kettle; and this, we find, works very much better, and requires very much less heat.

Mr. Alpaugh—Mr. Gemmill has told you more than I could tell you, about five times over. I melted only a few old combs, and I did it with hot water and pressure, on Mr. Gemmill's principle.

Mr. Gemmill—Mr. Alpaugh has an idea in regard to this matter that I should like to hear.

Mr. Alpaugh—My idea would be to have a large melting tank, something you could get lots of stuff in, anyway, and have a division in this, and in the division a pair of rollers set perfectly tight so that they would work on the principle of a wringer, so that you could wring the stuff through from one side to the other and keep the wax back, which it would do if they were set tight at the ends; and just keep feeding it in thin, flat sheets. When you come to press this old comb the trouble is to get it in small enough quantities and not to have too slow a job. My idea would be to feed it through rollers in a thin layer and grind it through under low pressure, the same as wringing out clothes.

Mr. McEvoy—How would it do to put the combs through a cutting-box first?

Pres. Root—I believe Mr. Alpaugh is on the right track. In order to put pressure on the combs you have to get it down to a thin sheet. The bulk of it perhaps would be the depth of a basket, and when squeezed down should not be more than an inch thick. Mr. Alpaugh has the right idea of having a wringer, or something of that kind, that would yield enough so that this slumgum could go through in thin layers.

Dr. Miller—I believe that Mr. Alpaugh has a good thing and a bad thing together. I believe he has the right idea in the one respect, that you want a thin layer; but here is the trouble with the wringer business: You attempt to put a towel through a clothes wringer and you get the least start the towel will go through; but suppose it is torn in'two, only the half of it will go through, and there is nothing to catch the next particle, and it will simply squeeze and pack, in ordinary, actual practice. I don't believe you could get the thing to go through, but I believe Mr. Alpaugh has the right idea, that there should be some kind of arrangement that will get the thing through.

D. H. Coggshall—I take a bran-sack or a gunny-sack and re-sew them so that they won't rip at the edges, and put the wax or combs into that; then I make a pair of squeezers 3 feet long. use a large caldron kettle and put the sack of wax in, and keep the upper one going, working back and forth, through these squeezers—keep working it back and forth. Of course, if I have black combs there is not so much wax in them. I have tried every way, boiling it under water. There are lots of little particles of wax in the slumgum. You have to work it under water while you are pressing it. I keep two sacks, one heating while I am squeezing the other. I get lots of water in the can I am cooling it in. Then draw the water off at the bottom and take the wax out. I made a division in the kettle and put in wax on one side and boiled it and boiled it; put it under a weight, thinking that I could get the wax out that way and leave the slumgum, but when I came to take the slumgum out there were lots of particles of wax in it. To make the squeezers I take a board a foot wide for the bottom one, and the upper one not quite so large. Take combs when cold and pound them all up; put them under hot water, and squeeze them in these squeezers. I can get it that way. I think that is the only correct way to get it.

Mr. Alpaugh—I understood you to say there wasn't so much wax in black combs?

D. H. Coggshall—Of course; there isn't much refuse in cappings; there would be a little.

Mr. Alpaugh—You mean to say a comb that has been used several years hasn't as much wax in it as one that is used for a year or two?

D. H. Coggshall—It seems as if there wasn't so much.

Mr. Gemmill—It is in the slumgum. I would like you to send me a little of that slumgum. I know a gentleman who sent me 20 pounds of refuse, and I got seven pounds of wax out of it.

Mr. Baldridge—I would like to know if there is any test to know when we have all the wax out of the slumgum.

Mr. Gemmill—The only way is to keep pressing until you can't get any more out of it. I don't care how much you press it, if you throw it into the fire you will see there is a little left in it.

The chairman was called from the room, when Mr. Gemmill presided.

Mr. Barb—I would like to know how the wax is prepared after going through the press?

Mr. Gemmill—The way I have been in the habit of doing, after I had all the wax gathered together and wished to remold it, I generally used the steam extractor without the pressure, just merely to melt the wax. In the top of that I put a wire clothes-basket sunk down, and inside of that I laid a very fine piece of old cheese-cloth;then I put this into the steamer, and in the lower portion I put on the lid of an old pot so as to keep the wax from running down into water, and I retained all the refuse, and a lot of the propolis, too, will remain in this cloth. There will be very little pollen. The wax is forced out of the pollen and the cocoons. There will be a little propolis and some particles of dust.

W. L. Coggshall—To clarify wax, a teaspoonful of sulphuric acid will do for 100 pounds. Be careful not to put in too much.

Mr. Callbreath—What kind of a vessel do you use?

W. L. Coggshall—Pour it into a tin vessel.

Mr. Callbreath—Won't the sulphuric acid eat the tin off?

W. L. Coggshall—It eats the dirt, not the tin. That is what cleanses it.

PREPARING BEES FOR WINTER.

"What is the best method of preparing the brood-nest for wintering?"

Mr. McEvoy—About October 1. I like to bring the bees successfully through the winter with the least consumption of stores, and that is a thing that I worked on for quite a while in my early days of bee-keeping. To make a success of that I found the only way to do was to send them into winter with sealed stores, confine them to about five or six combs, according to the strength of the colony, and if there comes a warm spell in January there isn't the chance for them to commence much brood-rearing, but when I wintered them on a full set of combs and left an open center, and a warm spell came in January, young queens would start laying, the cluster would become broken, and spring dwindling would take place. I try to send every colony into winter with sealed stores, crowded on the least number of combs, and when I haven't sealed stores to do it, I feed until they are filled.

Mr. Callbreath—Beginning before October 1 to feed?

Mr. McEvoy—Sometimes before and sometimes after, and where I didn't begin to feed until after the nights got cold, the bees wouldn't go up in the feeder, but by placing the feeder underneath so as to bring the food within about ⅜ inch of the frames, a night in October when the ground was covered with white frost, they would go down into this and take up perhaps seven, eight or nine pounds some nights; whereas, if I put it above they would withdraw, and I would lose the colony by not feeding early. I like the combs all sealed. It is work, but it pays.

Mr. Callbreath—Do you begin feeding after brood-rearing has ceased?

Mr. McEvoy—Yes; and if I find that brood-rearing continues, I shut it off. I give them sealed stores and shut it off in that way.

Mr. Callbreath—Won't the feeding start brood-rearing?

Mr. McEvoy—I do it so suddenly that it won't. If I do it slowly it will waste the stores, and start brood-rearing. If I can feed them up in one or two nights, I do it. The sooner you do it the better.

Mr. West—Is that for wintering outside or indoors?

Mr. McEvoy—I have them out and in, both. Of course, in the latitude [Ontario] I am in I like outdoor wintering: but for indoors it will do equally as well.

Mr. Barb—Doesn't it make it too cold in the hive to have the bees on so few combs?

Mr. McEvoy—No, the bees are crowded on these, and when they get any honey, instead of hunting all through the hive, all they have to do is simply to lean forward.

Mr. Barb—How far apart do you have the combs?

Mr. McEvoy—The regular distance, about 1⅜ inches from center to center. As soon as the honey is out of them in the spring I want them ready for breeding.

E. R. Longnecker—Suppose there are combs containing brood when you begin to feed, what would you do with them?

Mr. McEvoy—At that season of the year there is very little brood; but if there is, I take the next weakest colony and put it in that.

Mr. Callbreath—I would like to ask Mr. McEvoy if doubling up two colonies, one very strong, the bees could not be left on the full set of combs with plenty of honey. Will they commence brood-rearing early in the spring without any bad results?

Mr. McEvoy—Some years I have been caught with perhaps in a hundred ten of them would be upon the full set. I would find that I had several that was nearly solid with honey. I would let that one go to the last; but taking all in all, from year to year, I found that ten of them would not average up with ten of those that I prepared. Some of them would be just as good, but there wouldn't be an average in ten that would equal ten that I had prepared, so much so that I do not want one colony in 100 on full stores, I want them on less.

Mr. Callbreath—I am not quite satisfied. My experience is that the colonies that are heavy with honey in the fall, without any feeding, without any attention on the part of the bee-keeper, are the colonies that have poor queens, and not a very great many young bees; and such, of course, would be likely to drop out in the winter or the spring.

Mr. McEvoy—Sometimes I find it so, too.

Mr. Callbreath—Such colonies would be likely to make a poor showing the next year.

Mr. McEvoy—Do you winter bees outside?

Mr. Callbreath—Yes, sir.

Dr. Mason—How many frames do you put a good, fair colony on?

Mr. McEvoy—Five or six, according to the strength.

Dr. Mason—In preparing my bees for winter, about the middle of September, I select what brood there may be and put it in one side of the hive; then I commence with combs of honey and fill the remainder of the hive. I winter bees in the cellar, of course,and I don't have any spring dwindling, and they begin to breed in January. I wouldn't give a cent for them if they didn't begin in January. I have had bees that came out of the cellar stronger than they went in in the fall, and no dysentery or spring dwindling. That is the difference of locality, I suppose.

Mr. McEvoy—No, it is the difference between indoor and outdoor wintering.

Mr. Niver—I would like to ask Mr. McEvoy the cost of this contracting the brood-nest, how much he would take to contract Mr. Coggshall's 2,000.

Mr. McEvoy—I don't think I could ever get through with it, because I guess he has over 2,000 colonies.

A Member—I would like to ask Mr. Coggshall at what time, if he ever has any feeding to do, he does it?

W. L. Coggshall—I never yet fed any sugar. I always have honey enough.

(Continued next week.)

Contributed Articles.

Selling Comb Honey by Case vs. Weight.

BY R. A. BURNETT & CO.

FOR some little time there has been an effort made to sell comb honey by the case and count of sections instead of by the actual weight of the honey contained therein. There is before me as I write two letters from parties desiring to sell their honey in this way; namely, so much per case of 24 sections, without reference to the actual weight of honey contained in the case. Both of these parties (who are car-load shippers) were requested to name their price per pound. In reply to that letter, one of them writes:

"In reply, I will state that it is not possible to quote any honey by the pound, for the reason that the different honey-producers use different-weight cases, and it would be an endless task to arrive at the net weight of 1000 or more cases."

The other one writes:

"In reply to your favor of the 26th inst., I beg to say that we make it a rule to sell by the case only, as selling by the pound would put a premium on the non-separatored honey, which is not as satisfactory to the dealers as the nice separatored article, which is much more even in weight and less liable to injury by careless handling. We hope that selling by the case will soon come into more general use."

We hardly care to make any comment on the foregoing quotations, but merely introduce them so that the reader may know that there is more or less honey in the comb being offered for sale in this way. To say that by selling by count is more satisfactory than buying by the pound brings to our memory the old adage so often repeated, that, "It is never wise to buy a pig in the bag," for, in all probability, it is a pig, yet when the bag is removed it may not at all meet the expectations of the buyer.

It may be conceded that some, if not many, of our expert bee-manipulators can get the bees to store in each section a given quantity, filling each section with no more, or no less, than is contained in all the neighboring ones; now if this were the case generally, the use of scales might well be abandoned; but if it takes the bees longer to put 16 ounces of honey into a section than it does 12, and a correspondingly longer time to put in 12 than it would nine, is it not reasonable to infer that some man less scrupulous than his neighbor would manage it so that he could get a little less honey in the section, and thus a greater lot of sections filled in a given time by the bees than his neighbor could? He would then be able to get as much money for the number of sections as his neighbor produced, and, having produced a fourth or a third more filled sections, he would be that much better off financially than his neighbor; and the purchaser would have that much less honey for an equal sum of money; therefore, it would be only a little time before a case of 24 so-called one-pound sections, instead of weighing from 22 to 24 pounds, as was supposed to be the case at the beginning of this method, we soon find that the cases, while containing 24 sections, in many instances weigh from 17 to 19 pounds.

Although this method of selling honey in any quantity has not been in vogue more than three or four years, already we find a 24-section case to weigh nearer 19 to 20 pounds than 23 to 24; yet there are some producers in a collection of a thousand cases of comb honey, whose cases weigh from 23 to 24 pounds, while others run from 17 to 19 pounds, there being no apparent difference in the grade of honey when viewed through the glass exposure, but there is, when sections are compared with one another, a noticeable difference in the thickness of the comb.

If all men were evolved up to one standard, there would be little need of checking one's accounts against another, but inasmuch as we are not yet, as a whole, at the stage where we will not practice deceit, for the sake of personal gain—a false gain to be sure, but, nevertheless, one that is daily practiced by a very great number of us—and the desire that is so prevalent to excel our neighbor in getting the best of a bargain, is so constantly in mind that this method of selling honey by the case without reference to the net weight of the contents is a great temptation to a moral nature not overly strong. It would be as fair to buy our sugar and tea by the bagful without weighing it, because the merchant says, "My bags hold just so much in weight and it is unnecessary to weigh the goods I serve you for so much;" while it is true that since paper bags are made by machinery they vary but little in size, the machinery being so nicely arranged that it cuts the paper with great accuracy, folds it with corresponding accuracy; thus the bag when complete, if properly filled, will each time contain almost exactly the same amount of sugar, tea or coffee. But there are some merchants who want to sell a bag of tea,coffee or sugar for a little less than their competitors, and to enable them to do so, and yet make a profit, they arrange for a bag that will hold a little less than the so-called five or ten pound bag they have previously been using, and their neighbor is using, and by this means they are able to draw those who formerly bought of their neighbor to buy their goods, for the most of us consider it necessary to buy where we can buy the cheapest.

It seems to us that it would be just as reasonable to abandon weighing one of the commodities we have mentioned as it would the other, for, in either case, we would be putting a temptation in the way of a weaker brother by giving him an opportunity to cheat without fear of detection.

It has been said in support of buying honey by the case, that nearly all the retailers sell it by the section and not by the weight. Let us grant this to be the fact. The sections are taken out of the cases, or they are arranged in such a way that the buyer can see what he is getting, if it is sold to him as weighing a pound, and, if he doubts, he can ask to have it weighed; if the merchant refuses to do so it would be a tacit admission on his part that he was deceiving his customer. Now, there are very few merchants who would take that risk, for the reason the patronage of the customer would be worth much more to him than the little he could make on a section of honey; for how many of us would continue to trade with any one whom we found deliberately trying to cheat us?

We could cite many other reasons that to us are logical, against buying or selling honey in what seems to us a very primitive way, namely, of guessing at what the weights might be. When nowadays scales are cheap, and business is done so closely that the guess is no longer admissible, if for no other reason than the ill-feeling it is liable to arise between the parties buying and selling, it should be dispensed with.

Our purpose in the foregoing is to call the attention of bee-keepers to this subject, especially when we find that organizations of bee-keepers in some instances are advocating the abandoning of weighing their honey and selling it by the case.

Cook Co., Ill.

No. 3.—APICULTURE AS A BUSINESS.

A 200-Colony Basis Estimate—Capital Needed—No Money in the Business Except in Hands of Practical Apiarists.

BY R. C. AIKIN.

AT last W. Z. Hutchinson has come to the decision that the business that best combines with bees is more bees. He has yielded to the inevitable—to the march of specialism. We may theorize, and plan, and prospect, but to succeed and even make a respectable living from any business in these

APIARY OF E. S. MILES, OF CRAWFORD CO., IOWA.

times we must specialize. By this I mean that we must select one line of business and push that one thing. Even what a few years ago would be counted as one line of business, we find now divided into several different and special branches. One man's specialty is extracted honey, another comb, a third queen-rearing, and such division and subdivision. It is possible for one man or firm to handle successfully several lines, but to do so requires a much larger outlay of capital. The thought is, the specialist, giving his time and energy to the one thing—mastering all the details and facilitating his production or conduct of the business—is able to discount all competitors who are less well prepared. The specialist having acquired the knowledge and facilities for handling the business, adds to its volume at a very nominal additional outlay, and it is this increased volume of business handled from approximately the same basis of equipment used in the smaller business, that enables the special and extensive operators to discount the lesser.

It is the argument in favor of great combinations, that the multitude of small factories or businesses, when combined under *one general* head and management, can be run much more cheaply than when all run separately and independently. Combination gives power, and an unjust use of this power becomes oppression and extortion. The fact that combination gives a power that often is used for extortion, does not invalidate my argument, but strengthens it—there is no disputing the fact that in union there is strength. The general benefits of co-operation or combination I will not now discuss, nor the wrong use of power, which comes of combination; I have introduced the thought here because specialism and combination are things that must be considered in our business calculations. My aim in this series of articles on "Apiculture as a Business" is to get our ideas down to a business basis. The thing most of all that has prompted this discussion, is the fact that there is an epidemic bee-fever in Colorado, and very many are rushing into the business, apparently only to make financial failures.

I am going to take the proposition of one going into apiculture as a money-making procedure, calculating cost of equipment and all necessary expenditures, and analyzing the business in its details to the final outcome. This will include a consideration of locality, market conditions, ability of apiarist, and methods to obtain results.

One of the very first and most common mistakes made by all classes, is a failure to consider the cost, final chances of success, and, whether there is room and opportunity for their proposed venture. Suppose some one has a longing to embark in the business in my territory here. He thinks I am making money, and surely he is as smart as I am—if Aikin can succeed so can he. He does not stop to think that I am already established in the business, that I have spent years of study and hundreds and hundreds of dollars in investigations, experiments and advertising, have built up a trade—in short, have spent years laying the foundation for a business. Few stop to consider that it is not a question simply of mere personal fitness, but of preparation and becoming fitted by practice and familiarity with the thing we are to deal with.

I note that many of these investors are paying $5 a colony for their stock to start with. They, being no judges of the condition of the stock, get good, bad and indifferent, various sized hives, ill-fitting supers, queenless colonies, foul stock—many undesirable things. In order to have a basis I shall take the $5-a-colony price, considering that this price gets regular hives and two supers to the hive. I shall also consider that 200 colonies will be all the prospective apiarist can handle, and that some experience has been had to enable the owner to begin with a fair foundation knowledge of the management of bees.

The 200 colonies at $5 is $1000; honey and storage-room (small) $100; smokers, knives, veils, cart or barrow, solar or other wax-extractor, saws, hammers and tools to make or repair hives, etc., $20; total investment, $1120.

A 25-pound yield from the 200 colonies would give 5000 pounds—but suppose a 50 pound crop—10,000 pounds. According to a former estimate (see article No. 2) 10,000 pounds costs in foundation, sections, and cases, $200. The bees assessed at $1 a colony and at a general total tax of 2¼ percent, is $5—a total outlay of cash for the 10,000 pounds of honey, $205. At the average price noted in article No. 2, this crop of honey being 416 cases and a fraction (we will drop the fraction) brings $915.20. Take from this the $205, cash paid, and $710.20 remains to pay interest on the investment and for the apiarist's labor and living.

Now let us run the calculations through on an average yield of half the foregoing. We have 208 cases at $2.20—$457.60; taking from this $105 for sections, foundation, cases and taxes, leaves for the labor and interest $352.60. A glance at these figures shows at once that if the owner can not handle the stock himself and alone, if for any reason he has to have hired help, very little will be left of the income.

But I know many will say, "What of the increase? That is worth something." Let us see what it is worth. A fair increase for 200 colonies would be 100, when handled at all with a view to getting the surplus yields I have allowed in the foregoing estimates. 100 new hives, two supers each, will cost in the flat about $1.50 each; nailed and painted, with starters in the brood-frames, the apiarist doing the labor, the hives cost about $2.00 each. I allowed at the start $5 a colony for the stock purchased to begin with, but it would not be a safe price on the increase. There is a limit to all things. You do not expect to go on increasing and selling your increase to your neighbors to go into business and be your competitors; and not only competitors, but to overstock your pasturage and cut down your yields. Even if you did expect to sell the increase there would soon be no market for it—you could not continue that line of policy very long. I should say that $3 a colony would be a good, big allowance for the increase.

So far, we have gone on the assumption that the original stock remains intact, no losses in winter from queenlessness or any other cause. A small annual increase is necessary to make up for the unavoidable losses: it is a rare thing to get through the winter without a few losses from queenless colonies at least. This necessitates, then, some additional capital invested in hives. If we must, in order to keep up the stock, have some extra hives for increase, our capital put into the business is greater than the $1120, given at the start. To have a really safe basis to keep up the original stock, one should have about 25 extra hives, making so much increase in them to be doubled back or substituted for the unavoidable losses.

There is still another item not yet considered. No matter whether the yield be 5,000 or 10,000 pounds, there will be of necessity a surplus of sections and foundation, for one can not time to an exact count. The unfinished sections left over when you have cleaned up 5,000 pounds of marketable honey or any other amount, will be from 10 to 20 percent, sometimes reaching 40 or 50 percent. This represents only the sections used or placed on the hives, while there must, of necessity, be an additional stock carried in order to have enough. If we anticipate a 10,000-pound yield, we can scarcely do less than buy and *put up at least* 10,000 sections, even though we do not get half of them filled. And, if one expects to do the work and care for the stock himself, it becomes a necessity that all *prospectively needed* hives, sections, and all supplies except cases, be purchased ahead and prepared, enough to hold the biggest crop *expected*, for 200 colonies will keep one hand hustling during the honey-flow.

These extra supplies needed and carried in stock, must be added to the investment of bees, honey-house and tools. Two hundred colonies in one apiary are too many—they should be in two places. If in two yards, a horse and wagon will be needed. Without any more itemizing I am going to put the necessary money capital to be invested in a 200-colony business where $5 a colony has to be paid for the bees, at $1500. Ordinarily it is not done for less.

In the foregoing estimates I have put the figure much higher than any green hand could accomplish. I have taken it for granted that *all* the product was No. 1 honey, whereas

the inexperienced would have from ⅓ to ⅔ No. 2 and culls. For the past ten years I put my own general average at 40 pounds. My general average price has been, for all grades, about $2 a case—$8\frac{1}{3}$ cents a pound. Sections, foundation and cases cost 2 cents, or 80 cents a colony. Investment for 200 colonies and equipment being, as per previous tables, $1,500, I allow on this 10 percent for interest, and 10 percent more for wear and tear—20 per cent of $1500 is $300, or $1.50 a colony. A 40-pound yield at $8\frac{1}{3}$ cents makes the gross income per colony $3.33. Deduct from this the cost of sections, foundation and cases, interest and wear and tear—the 20 per cent on capital invested—$2.30 a colony, leaves me $1.03 a colony. 200 colonies giving me the sum of $206 for my labor and caring for them.

If this is the way it turns out with one of so large an experience, what must be the result when an inexperienced person is doing the managing? There is no money in the business here except in the hands of practical apiarists.

Larimer Co., Colo.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

SELLING EXTRACTED HONEY IN PAPER SACKS.

So she thought a gallon crock went with three pounds of honey, and incontinently packed it full of butter! All right to deliver her honey in a paper sack, if you tell her to pour it out into something else directly. And the actual storage in flour-sacks of 1,000 pounds of honey, taken from badly leaking (and badly warranted) barrels is certainly worth putting in the papers. They were second-hand flour-sacks at that, remember. Page 631.

MIXING OF SWARMS.

Boomer's experience, on page 633, touches one of the standing bee-puzzles. When two swarms mix, some think it well and some think it ill, but whatever happens, they seldom separate. Yet when a swarm forces itself into another hive they *usually* separate. Why is this thus? I rather think that in the latter case they don't really mix, but stand with their toes on a line making faces at each other. The case Boomer gives is a little unusual as to the short time No. 1 had been in possession.

FLORAL DISPLAYS ON HIVE-TOPS.

Looking at the very beautiful apiary of J. W. Tucker & Son, on page 634, I see pots of flowers on some of the hive-roofs. That's not new, but the contemplation of it pops a a new thought into my mind. Could we put a "Wandering Jew," or some equally rampant vine, into a big pot and make it weigh down the cover and shade the whole establishment at the same time? I see some objections, but maybe they could all be surmounted. They wouldn't blow away as easily as tall plants do.

GROWING MULBERRIES FROM THE SEED.

Considering how shy of germination many similar seeds are, it is quite a success to have mulberry seeds sown August 15, not only up but an inch high September 20. Little excuse left now for not having all the young plants we think we need. Page 637.

BOUNTIFUL CROP REPORTS HELP SALES.

Quite interesting to see so competent authority as R. A. Burnett & Co. adopt the opinion that the cry of "Honey scarce and high this year" scares off customers; and that the publication of news that there has been a bountiful crop promotes sales. This is not a popular view with our brethren; but it's well for them to remember that there is such a view. Of course, yarns about an enormous overplus would not come under the same head. I fear there are usually quite as many trying to lie the crop down as try to lie it up. What does a liar estimate himself at, anyhow? Manifestly one Ananias Bull is more than a match for a dozen of Ananias Bear, Esq. The latter can not possibly see any less than none in any given locality. If there are five car-loads somewhere, then five car-loads is the limit of his mendacity; while the former chap has no limit, and can see five car-loads as a thousand. Better we make it hot for the whole Ananias tribe. Page 643.

HONEY-BEES AND TEXAS CATTLE.

Adrian Getaz says an important but rather discouraging thing on page 647. Can we by skilled breeding make Texas cattle more tough and hardy than they are? Probably not. Nature has already done the job and finished it. Well, then, how about bees? Has not nature for thousands of years been developing hardiness and honey-gathering, the very qualities we propose to breed for?

A WOODPECKERS' "BEE."

Thanks to Prof. Cook for his verification of "bees" among woodpeckers—bees not at all zoological, but industrial. It's pleasant to see how many human things we can find duplicated among our lower down (in this case higher up) relations. So the woodpecker does sometimes actually "make a bee" and invite his fellows to help him—and they good-naturedly respond, and pick away for awhile, and then go back to their own work. Page 649.

EVENING PRIMROSES AS NECTAR YIELDERS.

How mysterious are the kinds of honey-flow and seasons! Why did the evening primroses this year abound with nectar—both in Missouri (page 652) and here in Ohio—notwithstanding the fact that they usually do not attract bees very much. Prize of five cents for the boy that can tell.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

INDULGENCE.

The greatest lesson Christ taught the world was the blessedness of sacrifice. "He came not to be ministered unto, but to minister." "My father worketh hitherto, and I work." "He that saveth his life shall lose it, but he that loseth his life for my sake and the gospel's shall surely find it." He was not simply willing, but rejoiced to give himself for men. No wonder his most devoted, and so, of course, his most efficient disciple—the great Paul—could say, "I count not myself dear unto myself." No wonder he could rejoice in beatings, shipwrecks, standing the hardest trials and most burdensome sacrifices. He had right in sight the greater sacrifices of the Master, "who spake as never man spake," who "went about doing good," and in "whose life was no guile."

The dear Christ life and nature knew no such word as selfishness, but were guided and gilded by sacrifice. No wonder He lifted the world. No wonder He shines in lives and hearts today. No wonder that He is to work as most blessed leaven until the world is redeemed unto himself.

I believe that this greatest lesson is one that we keep too little in mind in our home circles. We as parents love our children. We love to gratify them. To minister unto them is easiest, for our greatest pleasure comes when they are happiest. Our love, unless we are wary, will trample our judgment under foot, and will hide the teachings, the life, the incomparable example of the Christ standing as a wall between them and their application to our children. To be served, petted, indulged, often clothes a child with the murky garment of selfishness. To serve, to be buffeted for faults, "to work out one's own salvation with fear and trembling," all these go to make character, and develop within the boy or girl a moral and intellectual physique and stamina that will stand alone if cruel circumstances remove all the props which kindly hands so fondly place and hold in position.

I have seen many a boy, and many girls, made pulpy, inefficient, and, worst of all, irredeemably selfish, by just such indulgence. The finest characters I have ever known have been those who have been strengthened in fiber and gripe by entire self-dependence and self-support in all their college life. Such persons can appreciate Christ's rugged philosophy, and, if occasion requires, can rival Paul in battling against hardships and calamity.

My mother was very indulgent. I think she enjoyed that I lay hat, coat or books on chair or sofa that she might have the joy of putting them in place—of waiting on me. My first room-mate in college had not been so treated. He was older than I, and I justly looked up to him with great admiration and respect. He could not have done a kinder thing to me than he did do. He taught me right at the threshold of our

most happy, blessed and helpful association that I was to put up my things instanter and every time. Coat on a chair; not much. Hat or books on his table; certainly not the second time. Boots anywhere rather than close side by side in touch with bed-leg just under the bed, as I retired; well, if so not repeated. What if it did seem a little tough then? What if it did make me dream of home and mother? It was a most valuable and much-needed lesson.

Mother marveled when I came home on vacations, at the valuable influence of college to make students more orderly and thoughtful. She did not know until I told her years after that it was my room-mate, Prof. Prentiss—long the honored Professor of Botany in Cornell University—that wrought the reform. To-day he is with God, beyond the river, but his salutary influence is still on earth, and it did much for me.

I know a mother who was left a widow with four children and a large debt. She had been a teacher; indeed, it was she that first said "college" to me, and with a look and emphasis that made me resolve that it and its invaluable gifts should be mine. She was determined that all those children should have a college education. Through indomitable energy and courage, by dint of long, hard hours of severest labor, she lifted the debts, gained a competency, and sent all her children to college. She felt that they must not have the hard life that she had suffered. She sent money to them in handfuls. One of her boys was dubbed "Vanderbilt." This was before her debt burdens were lifted, and in spite of the fact that the boy knew of his mother's trials and hardships. I begged of her to withhold the money, but she was deaf to my suggestions. The two older boys were almost ruined. They are now pretty successful and valuable men, but it took years, and much more of the mother's money, to undo the mischief.

My father gave me to know that possibly he could not afford means to send me through college. "It would depend upon the expense." He also said something about my record. He need not have done this, as I was just athirst for what the college could give me. As a result, I earned enough while in college more than to pay half my way, though I was far from strong. Whatever I may have thought then, I now am sure that my father was very wise. No father, I ween, can do a wiser thing than to inculcate in his child a love for work, passion for industry, and habit of economy of both time and money. Indulgence will never grow the kind of fiber that gives us our grandest men and women. A wise requirement of work, duties regularly, faithfully and promptly done, will secure noble men, and such requirement is the best heritage that any son gets from wise and loving parents.

THRIFT.

Can a father give a son wiser advice than that he save each year a part of his income? I know far more than one man who spends each year the entire amount of his earnings. I know of more than one whose expenses exceed the income. This course, if a man is rightly endowed with proper sensibilities, will handicap his daily efforts, as with such loss of independence comes unrest, and discontent weighs down efficiency.

No father can do a wiser thing than to furnish a son or daughter with opportunity to earn money, and then watch for every opportunity to beget a love and habit of wise saving.

LOVE OF PARENTS.

The fifth, or pivotal, commandment of all the ten, is "Honor thy father and thy mother." If Joseph, after his great honors and opportunities came to him, could have gone to see that old, loving father; or, if there did not seem insuperable objections to his going, then he was a bad, undutiful son. If, on the other hand, his heart yearned to go, and he denied himself the great pleasure, feeling that possibly family discord and greater ill-will and discontent would follow such visit, made before due preparation prepared father, and especially brothers, for it, then he was truly a grand boy. In industry, purity, kindness, and generous magnanimity, he was certainly a model for all the ages.

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GENERAL ITEMS

A War Veteran's Report.

I am an old veteran soldier of the Civil War of 1861-1865, serving three years and eight months in Company H, First Michigan Light Artillery. I was injured in the service, having taken part in 15 battles, and now draw a pension. I have kept bees and farmed ever since. I have a small farm and grow fruit and general produce. I had four colonies of Italian and hybrid bees, spring count, which increased to 11 and yielded 80 quarts of extracted and 60 pounds of comb honey. I have had a Novice extractor for 10 years, but have not used it much, as I reduce the number of my colonies to about 10 or 12, as I have no time to attend to more. I generally sulphur that number every fall, and use the combs thus obtained to extract from the following season.

This has been the best honey season in years in this vicinity. I have been sowing sweet clover in waste, out-of-the-way places of late years, and have gathered a lot of it this fall, and also catnip seed, to sow early in the spring of 1902. It yields lots of honey and bees work on it a month. I use 8-frame double-wall and 10-frame single-wall Simplicity hives. WM. MARTIN.

Oakland Co., Mich., Oct. 30.

Safe Introduction of Queens.

So much has been written on introducing queens, and so much dissatisfaction and so many failures, that I am hereby induced to give my plan, which, up to the present, has not failed in a single instance, and it would be hard for me to believe that any one would fail who adopts my method and strictly carries it out. If it is a queen received through the mails, I follow instructions on the queen-cage, and I have never lost a queen by that plan, unless there happened to be two queens in the hive—not thinking that the old mother

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GUS. DITTMER, Augusta, Wis.

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and her daughter were together. In that case I lose the imported queen. Now for my never-failing plan:

First, I have a wire-cloth tent that sets over the hive, with room for me to work under. I take the smoker, and make the bees fill themselves with honey by rapping on the hive, etc., and in five to ten minutes I open the hive and take out each frame until I find and kill the old queen; and as I take out the frames I set each one outside of the hive in a box the size of the hive, with a bottom-board attached. I then shake all the bees from each frame to the ground directly in front of the hive, with alighting-board removed, and then replace each frame in the hive.

Understand, the old queen is now dead, the bees are all on the ground, and the frames back in the hive.

I now replace the alighting-board, and they immediately start to crawl in; after about 1-4 or 1-5 of them have crawled in, I take the queen I wish to introduce and drop her in a cup of extracted honey, take her out and drop her on the alighting-board near the entrance. I then close the hive (if I failed to do so sooner), raise a side of the tent and get out, leaving the tent over them until they are quiet.

I have introduced in this way at all seasons of the year, from April to October, and have yet to lose the first queen, and I have introduced hundreds in this manner. I can guarantee safe introduction in every case where the instructions are strictly carried out. If bees are thoroughly filled with honey, and enough smoke used to keep away prowlers, you can introduce a laying queen at any time, and I have not yet failed in introducing virgin queens in this manner. T. J. BAXTER.

Craven Co., N. C.

Poorest Honey Season in 15.

I have kept bees for about 15 years, and this has been the poorest season for honey in this locality I have ever experienced. People out West seem to think honey-dew is no good, but we think it is strictly first-class, and are always glad to see it come. Three cheers for Prof. Cook's article on patent medicines, on page 698. Hit 'em again, Prof Cook. HARRY P. GROGAN.

Scott Co., Va., Nov. 2.

Spring Dwindling and Its Cause.

I have not been in the bee-business long, and can not compare with those great, big fellows at the Buffalo convention. It seems that the bee-keepers *all* fear spring dwindling, and that was one of the first subjects discussed by that worthy body. My experience has been, that with proper food and all tucked up snug and warm, yet one thing lacketh here in southern Ohio. It seems as if winter and summer have this section for their battle-ground—first one victorious and then the other. Bees generally can find pollen by March 20, about which time a few warm days swell the maple-buds, when the bees rush forth, and, of course, commence brood-rearing. This condition lasts long enough to stimulate brood-rearing, when, unexpectedly, Old Winter makes a charge from the northwest, and drives the mercury down to 10 degrees below the freezing point, holding this position for from three to six days. The bees remain quiet for a day or two, or until the supply of water in the hive is exhausted, and the brood is ready to die for want of it; then the little martyrs go forth, rain or snow, and never return, and there you have a genuine case of spring dwindling in the strongest, well-packed and provisioned colonies, none exempt.

I passed through just such an experience last March, and again in April, yet I lost no bees, though some of my neighbors did. I looked out one evening in March, when the snow was eight inches deep, and still falling, and I saw a sight that almost took my breath—thousands of bees flying, so it seemed to me. I rushed out to find the snow covered with them. I closed the entrances of the hives, and in 10 minutes they came up between the hives and boxes I had them packed

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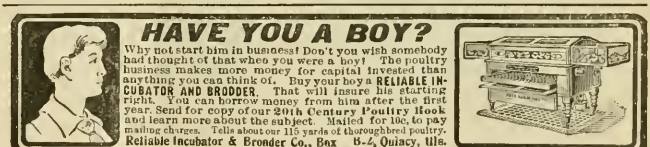
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Send for circulars regarding the oldest and most improved and original Bingham Bee-Smoker.
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We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	$ .60	$1.00	$2.25	$4.00
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White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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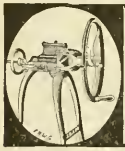

Why Not Buy the Best?

It costs no more than inferior styles. We claim that

Adam's Green Bone Cutter

is the best because it is the only Ball Bearing machine on the market. It works on the shear principle, turns easier, cuts faster and cleaner, and prepares the bone in better shape than any other. Write at once.

Catalogue No. 9 Is Free.

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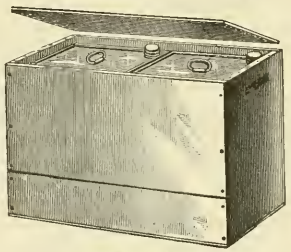
BEST

Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 8 cents per pound; four or more cans, 7½ cents per pound. **Basswood** Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are boxed. This is all

ABSOLUTELY PURE HONEY

The finest of their kinds produced in this country.

Read Dr. Miller's Testimony on Alfalfa Honey:

I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more marked flavor, according to my taste. C. C. MILLER.

McHenry Co., Ill.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

[GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

in, and if ever a fellow felt helpless it was I. Noticing the bees sucking the snow about the entrances, I took the hint and made a rush for the teakettle. I tempered some water and put it at the entrances; those poor bees just covered the entrances, crawling over each other to get that water. In less than 20 minutes all were quiet. The weather remained cold for several days, but I lost no more bees. Mr. Root may safely say it is not a disease, but a condition, namely, young bees to care for, and *water*, one of the great requirements, not available. If you have prepared your bees properly, both as to food and shelter, yet under the conditions I have mentioned you will still have a fatal case of spring dwindling. Therefore, the preventive would be plenty of stores—*both of honey and water.*

Pike Co., Ohio, Nov. 4. J. M. WEST.

Hand-Picking Drones.

On page 681, Mr. Doolittle tells about having hand-picked drones for best results, "killing all which you think are not such as you would desire." It may be an easy thing for Mr. Doolittle to decide just what are the best drones, but a very hard thing for a novice. Please have Mr. Doolittle inform us how we are to decide which drones to kill and which to save. LEARNER.

[In hand-picking drones I look first for perfect development, and those under size and imperfect in any way are killed. Next I look to activity on the combs, believing those sluggish in action and motion while on the combs will be the same while on the wing, and beget offspring of like import. Next I look at their markings, and any varying to an unusual degree to either side of an average are disposed of. It would seem hardly necessary for me to say in conclusion, though some beginners may not know it, that drones are what are known as "commoners," which means that any colony which will keep their own drones will allow the drones from other hives in the apiary to enter and be welcome. And thus it often happens that when drones from other colonies are being driven out, they will enter the colony having the drones from our select, drone-reared queen; and, in hand-picking, these should be selected out and killed. This can generally best be done from their color or markings.—G. M. DOOLITTLE.]

A Successful Wintering of Bees.

This has been a very poor season for bees in my locality. We had so much rain and cold winds in the spring that the bees could work but little on apple-bloom, and when that was over it kept right on raining, so that farmers could not get in many spring crops; so the summer has been a poor one for the farmer as well as the bee-keeper. I sold all but about 100 colonies last spring. I increased them to 178 during the season, but got very little honey—perhaps 450 or 500 pounds—nearly all from alsike clover. It rained so much that buckwheat did not yield any honey to speak of, and it has been the poorest season of the 12 that I have kept bees.

I was looking over an old diary to-day, where I had kept a record of my bees, of which the following is that of the past four years: Dec. 2, 1897, I put 190 colonies into winter quarters, and on March 23, 1898, took out 189, losing one by smothering. Dec. 1, 1898, I put 204 colonies into winter quarters just as they were, with no feeding or uniting, and April 7, 1899, took out 201, losing 3, one by starvation, and two by dwindling down to a handful each. I again sold all but about 90 colonies; and on Nov. 25, 1899, I put 120 colonies into a bee-house, taking out, April 7, 1900, the same number, with no loss. Nov. 17, 1900, I prepared 160 colonies for winter, all having enough stores for winter; and on April 12, 1901, I took out 159 colonies, one having played out through loss of the queen. I sold again, and doubled up to about 100 colonies.

Now, if any one who winters his bees above the ground, can show a better record than mine, I would like to hear from him. I have read the American Bee Journal for several years, but do not remember seeing any mention of our best bee-keepers making a success

It Brings More Eggs

Get a **Dandy Green Bone Cutter** and double your egg yield. Our new catalogue tells all about feeding green bone, and the best machine for cutting it.

Sold Direct "on 30 days' trial. PRICE, **$5** and up

Stratton Mfg. Co., Box 21, Erie, Pa.

Please mention Bee Journal when writing.

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.25 to

Prof. A. J. Cook, Claremont, Cal.,

FOR HIS

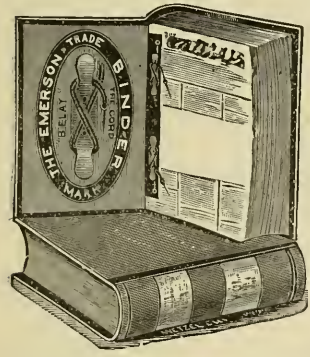
"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

Please mention Bee Journal when writing.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is



a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,

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200-Egg Incubator for $12.80

Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.

GEO. H. STAHL, Quincy, Ill.

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Standard Bred Queens.

Acme of Perfection. Not a Hybrid Among Them.

IMPROVED STRAIN GOLDEN ITALIANS.

World-wide reputation. 75 cts. each; 6 for $4.00.

Long-Tongued 3-Banded Italians

bred from stock whose tongues measured 25-100 inch. These are the red clover hustlers of America.

75c each, or 6 for $4.00. Safe arrival guaranteed. FRED W. MUTH & CO.

Headquarters for Bee-Keepers' Supplies,

S.W. Cor. Front and Walnut Sts.

Catalog on application. CINCINNATI, O.

Please mention Bee Journal when writing Advertisers.

wintering their bees above ground. My bees were not prepared as Mr. McEvoy explained to us at the Buffalo convention—they were simply put in the bee-house with a full hive of frames and honey, and tiered four high.

ANDREW M. THOMPSON.

Allegany Co., N. Y., Nov. 3.

Bees "Away Up North."

Last fall we had three fine colonies of bees, filling two stories each, but the winter proved too much for them. We had 4½ months of continued cold weather, there being scarcely a day when they could leave their hives for a flight, so when we opened them it was to find them all dead except a handful on the top of hive No. 2, which we put into a new one and made them cozy. We did not think it of any use to give them a queen until July 6—they looked as if they meant to stay, not losing a single bee. I was sorry we lost so much time, but got a queen introduced; two days later I put a hole through the candy in the cage with an awl, and waited three weeks, when I found the queen still a prisoner. I opened the cage and let her down with her attendants, and to all appearances all were thankfully received. It was interesting to see those old bees renewing their youth and guarding their hive with such an air of importance when the few yellow babies came out for their first play-spell—those bees must have been about 10 months old. I wonder where they have gone. I would have given them a decent funeral had they not taken themselves away; but I think they died happy, and I am not at all sorry that this year has been a failure, as I have had some needed lessons and much enjoyment.

I am as much interested in the bees as ever, although I am not beyond the one precious colony. I am as fond of the American Bee Journal as I am of the bees, and I do not wish to do without either. TOM HENRY.

Muskoka, Ont., Canada, Nov. 5.

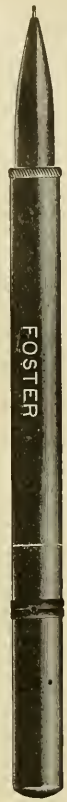
Workers Decide as to Brood-Rearing.

A good deal of previous observation, and closer observation this fall, lead me to believe that the *rule* is that queens continue laying for a time after workers cease rearing brood in the fall. At least, it is a very common thing to find eggs and sealed brood present, but no unsealed brood.—A Stray Straw in Gleanings in Bee Culture.

Deep vs. Shallow Brood-Frames.

For a long time I have been on the fence—undecided which to choose. Each kind seemed to possess some advantages. I did not want to give up, so I kept using half-stories and full stories, shallow and deep (11 inches) frames in equal numbers. I can get along very well in my home yard with the shallow hives; but when it comes to outyards, give me deep-frame hives, every time. In stocking up an outyard I was obliged to make out the desired number partly with half-story hives. I anticipated difficulties at the time, and I found them when it came to managing the hives. When two or more sectional hives are used as one, the combs or frames of the upper section will generally be more or less fastened to the lower one by bits of comb or otherwise, making it unpleasant to separate the two; then it requires so much more handling of frames to get through a hive just when time is most valuable that it almost seems like wasting it. When using only one shallow chamber as a hive, the bees have a way of boiling over as soon as opened up, which is very annoying.

I used to think that the shallow frame would be very nice for nuclei; but after trying it for years by the side of deep frames it does not suit me nearly as well as the latter. I can find queens much quicker on a deep



(Exact size of the Pen.)

FREE as a.... Premium

A Foster Stylographic PEN....

This pen consists of a **hard rubber** holder, tapering to a **round point**, and writes as smoothly as a lead-pencil. The **point** and **needle** of the pen are made of **platina**, alloyed with **iridium**—substances of great durability which are not affected by the action of any kind of ink.

They hold sufficient ink to write 10,000 words, and **do not leak or blot.**

As they make a line of **uniform width** at all times they are **unequaled for ruling purposes.**

Pens are furnished in neat paper boxes. Each pen is accompanied with full directions, filler and cleaner.

BEST MANIFOLDING PEN ON THE MARKET.

19,000 Postmasters use this kind of a pen. The Editor of the American Bee Journal uses the "Foster." You should have one also.

How to Get a "Foster" FREE.

Send TWO NEW SUBSCRIBERS to the American Bee Journal for one year, with $2.00; or send $1.90 for the Pen and your own subscription to the American Bee Journal for one year; or, for $1.00 we will mail the pen alone. Address,

GEORGE W. YORK & CO.

144 & 146 Erie St., Chicago, Ill.

A NIGHT EXPRESS TRAIN ON THE NICKEL PLATE ROAD.

A change of schedule for departure of train No. 6 from Chicago on the Nickel Plate Road, provides a convenient express train for Ft. Wayne, Findlay, Fostoria, Cleveland, Erie, Dunkirk, Buffalo, New York City, Boston, and all points East, leaving Chicago daily at 11:20 p.m., reaching New York City 6:50 second morning, Boston 10:07 second morning, and all other points east of Buffalo on same time as heretofore. Sleeping-car open for reception of passengers to retire at their convenience, after 9:30 p.m.

Daily train from Chicago at 10:30 a.m. reaches New York City following afternoon at 3:30 o'clock, Boston 5:20. Daily train from Chicago at 2:30 p.m., reaches New York at 7:35 p.m., next day. Through vestibuled sleeping-car. Meals served in Nickel Plate dining-cars, on Individual Club meal plan, ranging in price from 35 cents to $1.00. No excess fares on any train of the Nickel Plate Road.

Chicago depot, Van Buren St. and Pacific Ave., on the Elevated Loop. For further information, write John Y. Calahan, General Agent, 111 Adams St., Chicago. 44—48A1t

frame, because they are not so apt to hide in the space between the lower edge of the brood-comb and the bottom-bar of the frame. Particularly is this so with black bees, as they are inclined to run off the comb and take the queen with them. When taking a deep frame out of a hive the bees have not time enough to run off, while with a shallow one they would. I have decided to decrease my shallow-frame colonies gradually, and change back to the deep frame.—F. GREINER, in Gleanings in Bee Culture.

Raising Hives from the Ground.

Placing hives on high stands is in most places a thing of the past, and it is probable that most bee-keepers would say that there is no sufficient reason for the practice in any case. Arthur C. Miller, however, in the American Bee-Keeper, seems to think there are many places where it is not advisable to set hives near the ground, and he gives a reason for his view. He says:

In my home-apiary all hives are placed close to the ground; but in a small one, half a mile away, they are all on a bench some two feet above the ground. Both apiaries are stocked with the same strains of bees and part of the home apiary is worked on the same system as the outyard. In the latter I have no trouble in getting comb honey, but in the home yard it is difficult and almost impossible. The production of extracted honey is also affected, but not so markedly. So far as I have been able to determine, the difference is due entirely to the elevation of the hives.

In another small apiary (six colonies) the owner has two hives about 18 inches above ground, the rest on it. The two have done finely, the others poorly. In my own case this experience has extended over several years. In the vicinity of my apiaries at night a strata of cold fog is often observed close to the ground, and I surmise that this is the cause of my home yard doing less well than the out-yard, the hives of which are above the cold, damp strata of air.

In another district where I have had a trial colony to test its resources, periods of honey-flow, etc., I found that the hill-sides were free from a fog, while the low lands were blanketed with it about every night. Though this latter location is 50 miles from my home apiary, it would hardly be wise for one to say that because the conditions are alike in such widely separated spots, they must be everywhere; and in no locality should hives be placed on the ground unless on the hill-sides well up from the low lands.

Two-Frame vs. Four-Frame Extractors.

An editorial in Gleanings in Bee Culture may help to settle in the minds of those having a comparatively small number of colonies that they would not be greatly better off with a four-frame extractor. It says:

Opinions seem to be about equally divided between a two-frame extractor and a four and six frame machine. The advocates of the first-named will claim every time that they can extract just as much honey, and do it easier; while those who talk in favor of the big machines say they can not afford to fuss with the little ones. I did some extracting while in California, or at least I helped. My own opinion is that a six-frame machine is too large for one man to turn comfortably. Even a four-frame extractor is large enough. I came home with the conviction firmly rooted in my mind that these large machines ought to be run by some cheap gasoline power of a half or a third horse-power in size. In the course of a month or six weeks I think we shall have something that will run those big machines, and actually save the time of a big, strong man. Labor in California is rather expensive; and the cost of maintaining a little gasoline-engine during the honey season would not exceed two cents a day while being operated. Contrast this with the expense of a $1.50 man, and figure out how much would

No. 4 "Barler Ideal" Oil-Heater.

The "Barler Ideal" OIL-HEATER....

Saves Its Cost Every Year!
NO ODOR! NO SMOKE! NO ASHES!
Costs only a cent an hour to run it.

The editor of the American Bee Journal is using the "Barler Ideal" Oil Heater, and it is all right in every way. We liked it so well that we wanted our readers to have it too, so we have recently arranged with its manufacturers to fill our orders. The picture shown herewith is the one we recommend for general use. It is a perfect gem of a stove for heating dining-rooms, bed-rooms, and bath-rooms. It hinges back in a substantial way, and is thoroly well made thruout. The urn removes for heating water. The brass fount, or well, has a bail, and holds nearly one gallon of kerosene oil. It is just as safe as an ordinary lamp. You wouldn't be without it for twice its cost, after once having one of these stoves. Most oil-stoves emit an offensive odor, but this one doesn't. Its hight is 2½ feet, and weighs 20 pounds, or 30 pounds crated ready for shipment, either by freight or express.

Price, f.o.b. Chicago, **$6.00**; or, **combined with a year's subscription** to the American Bee Journal—**both for only $6.50.** FULL DIRECTIONS GO WITH EACH STOVE.

If you want something that is really serviceable, reliable, and thoroly comfortable, you should get this "Barler Ideal" Oil Stove, as it can easily be carried by any woman from one room to another, and thus have all the heat you want right where you want it.

Address,

GEORGE W. YORK & CO.,
Chicago, Ill.

Please Mention the Bee Journal when writing Advertisers *****

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO. St., Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

be saved. Of course, a man can do something besides turn the extractor; but with a little power, he can make his own labor go twice as far, and at the same time do the work more thoroughly.

Drones of a Drone-Layer All Right.

"Are the drones from a queen who has never met a drone virile?" is a question suggested by the editor, p. 778. Dzierzon holds that they are. On p. 244 of the American Bee Journal, Vol. 1., the baron of Berlepsch gives *a posteriori* proof that is *almost* conclusive. On p. 246 of the same volume is given the testimony of no less an authority than Prof. Leuckart, which, I think, settles the question. He says: "Those originating from the eggs of unfecundated or drone-producing queens are, as I have ascertained, as perfectly developed and as fully virile as others. So, likewise, are those dwarf or diminutive drones, which are occasionally bred in worker-cells. Nay, even in a drone hatched in a royal cell, though prematurely dead, sent to me by Mr. Kleine, I have unquestionably found seminal filaments and male organs. The case is precisely similar also with drones hatched from eggs laid by laying workers. Mr. Vogel inserted in a hive of common bees a drone-comb containing eggs laid by an Italian worker (which he had seen laying in a queenless colony), and removed the colony to an isolated locality. Italian drones were hatched, and two common queens, fecundated while those drones were flying, producing partly common and partly Italian workers. As there were then no other Italian drones in that neighborhood, those queens must have been fertilized by drones produced from the eggs of the laying worker."—[This ought to be sufficient proof.—Ed.]—Gleanings in Bee Culture.

CONVENTION NOTICES.

New York.—There will be a bee-keepers' convention (annual) held in Canandaigua, N. Y., by the Ontario Co., N.Y., Bee-Keepers' Association, Dec 13 and 14, 1901.

Naples, N.Y. FRIEDEMANN GREINER, Sec.

Michigan.—The Michigan State Bee-Keepers' Association will meet in convention at Petoskey, Jan. 1 and 2, 1902. This promises to be the most largely attended meeting of the Association in years. You are invited to attend. Reduced rates on all railroads; tickets can be bought Dec. 30 and Jan. 1, good to return not later than Jan. 4. There will be no set program, but another of our "open congress" meetings. Those who have attended in the past know what that means, and those that don't should come and find out. A novel design for badge has been ordered in honor of "Petoskey."

GEO. E. HILTON, Pres.

"SUCCESS" A WINNER.—One of the foremost editors of New York announced, a few months ago, that the only magazine that would win would be the magazine with a backbone. "Success" seems to be such a magazine. It has a backbone of which inspiration, optimism, beauty, and achievement are notable factors. Its Christmas number is in many respects the most interesting its editors have yet published. The table of contents for the holiday season is varied, timely, and interesting, the contributors being some of the most notable people in literary and public life. Among a few of the many interesting articles and poems contained in this number may be mentioned, "America Should Establish Universal Peace," by Prince Yo Yun Chun; "Greeley's Ambition Culminated in His Fight for the Presidency," by Alexander K. McClure; "Envy Shoots at Others, but Hits Itself," by Ella Wheeler Wilcox; "Cultivate the Art of 'Fitting-In,'" by Cynthia Westover Alden; "Good Employers Make Good Employees," by J. Lincoln Brooks; "The Potent Power of Our Divine Master Still Broods Over Palestine," by William Ordway Partridge; "How to Get, and Keep, a Position," by James J. Hill. Frank H. Spearman and Hezekiah Butterworth supply two strong fiction stories, and Sarah Graud tells American women they are without a superior. The art work is in keeping with the high class of literature which is a distinctive feature of "Success." The American Bee Journal and Success—both one year—for $1.75.

Wanted Comb and Extracted Honey!

State price, kind and quantity.

R. A. BURNETT & CO., 199 S. Water St., CHICAGO

33Atf Please mention the Bee Journal.

Wanted—Honey.

Car Lots or otherwise; will pay highest market price, spot cash. Address, stating quantity, quality, and price desired at your station. Will send man to receive when lot is large enough to justify. THOS. C. STANLEY & SON,

31Atf FAIRFIELD, ILL.

Please mention Bee Journal when writing.

Wanted Comb Honey and Beeswax. State price delivered in Cincinnati.

G. H. W. WEBER,

43Atf 2146-2148 Central Ave., CINCINNATI, O.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

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The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

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is the incubator for the poultry raiser, whether farmer or fancier. Anyone can run them, because they run themselves. Anyone can own them, because the price is right. Machine and results guaranteed; you take no risk. Our Common Sense Brooder is the best at any price, and we sell it very low. Handsome catalogue containing hundreds of views and full of honest poultry information, mailed free. When writing address nearest office.

Sure Hatch Incubator Co. Clay Center, Neb. or Columbus, O.

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The Bee-Keeper's Guide;

Or, Manual of the Apiary,

—BY—

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GEORGE W. YORK & CO.,

144 & 146 Erie Street, CHICAGO, ILL.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Nov. 19.—Honey is selling fairly well at about the prices that have prevailed for the last 2 months, viz: choice grades of white comb honey, 14½@15c; good to No. 1, 14c; and light amber, 13c, with darker grades, 10@12c. Extracted, white, 5½@7c; amber, 5¼@5¼c, according to quality, flavor and package. Beeswax good demand at 28c.

R. A. BURNETT & Co.

CINCINNATI, Oct. 25.—The honey market is rather dull on account of the warm weather. Extracted sells only to manufacturers from 5@6c; better grades alfalfa water-white from 6@7c; white clover from 8@9c. Fancy white comb honey sells from 13½@15c.

C. H. W. WEBER.

ALBANY, N. Y., Oct. 25.—Honey in good demand now, as this is the most satisfactory time to sell. Grocerymen are stocking up and will buy lines, when late they only buy enough to piece out. Fancy white comb, 15@16c; mixed, 14@15c; buckwheat, 12@13c. Extracted, white, 6½@7½c; mixed, 6@6½c. H. R. WRIGHT.

OMAHA, Oct. 25.—New comb honey is arriving by express in small quantities from Iowa and Colorado, and selling at $3.50 per case in a retail way. California extracted honey is being offered carlots at 4½@4¾c per pound, f.o.b. California shipping-points, but we have not heard of any sales having been made thus far. The production of extracted honey seems to be quite large this year in Colorado, Utah and California. PEYCKE BROS.

NEW YORK, Nov. 8.—Comb honey is in good demand, and while the market is not overstocked, receipts are sufficient to supply the demand. Fancy white sells at 15c, with an occasional sale at 16c for attractive lots; No. 1, white, at 14c; No. 2, at 13c; fancy buckwheat, 11@11½c; No. 1 and 2 at from 10@10½c. Extracted remains quiet at from 6@6½c for white, and 5½@5¾c for amber. Very little demand for dark at 5¼@5½c. Beeswax quiet at from 27@28c. HILDRETH & SEGELKEN.

BOSTON, Nov. 20.—The demand for honey is easing up, somewhat due in part to the holiday season at which time it is much neglected.

Our market at the present time runs 16c for strictly fancy in cartons; No. 1, 15c; No. 2, 12½@13c. Extracted, light amber, 7½@8½c; amber, 7c. BLAKE, SCOTT & LEE.

DES MOINES, Oct. 25.—There is very little doing here in new crop of honey. Some small lots of near-by produced comb honey are on the market and selling in a retail way at $3.50 to $3.75 per case. We do not look for much trade in this line before Sept. 1. Our market does not consume a great deal of extracted honey.

PEYCKE BROS. & CHANEY.

DETROIT, Oct. 25.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.

M. H. HUNT & SON.

SAN FRANCISCO, Nov. 13.— White comb, 10@12 cents; amber, 7@9c; dark, 6@7 cents. Extracted, white, 5½@—; light amber, 4¼@—; amber, 4@—.

Market is moderately firm at prevailing values, which remain quotable about the same as a week ago. There is considerable doing, both on foreign and local account. A shipment of 1,000 cases extracted went forward the past week per sailing vessel for England. A steamer took 107 cases for Holland.

KANSAS CITY, Oct. 25. Up to the present time only small lots of new comb honey have been on the market, and these met with ready sale on the basis of 15@16c per pound for fancy white. For next week heavier receipts are expected and quotations are issued at $3.10@$3.25 per case for large lots, which would be equal to about 14@14½c; the demand being quite brisk, a firm market is anticipated. Inquiries for extracted are a little more numerous, but large buyers still seem to have their ideas too low. In a small way 5½@6c is quotable.

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San Antonio as a Shipping-point.

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., DECEMBER 5, 1901.

FORTY-FIRST YEAR No. 49.

WEEKLY

The Fence or the Ambulance—Which?

BY JOSEPH MALINS.

'Twas a dangerous cliff, as they freely confessed,
Though to walk near its crest was so pleasant;
But over its terrible edge there had slipped
A duke, and full many a peasant:
So the people said something would have to be done,
But their projects did not at all tally.
Some said, "Put a fence round the edge of the cliff;"
Some, "An ambulance down in the valley."

But the cry for the ambulance carried the day,
For it spread through the neighboring city;
A fence may be useful or not, it is true,
But each heart became brimful of pity
For those who slipped over that dangerous cliff;
And the dwellers in highway and alley
Gave pounds or gave pence—not to put up a fence,
But an ambulance down in the valley.

"For the cliff's all right, if you're careful," they said;
"And if folks even slip and are dropping,
It isn't the slipping that hurts them so much
As the shock down below—when they're stopping."
So day after day, as these mishaps occurred,
Quick forth would these rescuers sally,
To pick up the victims who fell off the cliff,
With their ambulance down in the valley.

Then an old sage remarked, "It's a marvel to me
That people give far more attention
To repairing results than to stopping the cause,
When they'd much better aim at prevention.
Let us stop at its source all this mischief," cried he.
"Come, neighbors and friends, let us rally—
If the cliff we will fence we might almost dispense
With the ambulance down in the valley."

"Oh, he's a fanatic," the others rejoined;
"Dispence with the ambulance? Never!
He'd dispence with all charities, too, if he could;
No, no! We'll support them forever!
Aren't we picking folks up just as fast as they fall?
And shall this man dictate to us? Shall he?
Why should people of sense stop to put up a fence
While their ambulance works in the valley?"

But a sensible few, who are practical, too,
Will not bear with such nonsense much longer;
They believe that prevention is better than cure,
And their number will soon be the stronger.
Encourage them, then, with your purse, voice, and pen,
And (while other philanthropists dally)
They will scorn all pretence, and put a stout fence
On the cliff that hangs over the valley.

Better guide well the young than reclaim them when old,
For the voice of true wisdom is calling:
"To rescue the fallen is good, but 'tis best
To prevent other people from falling."
Better close up the source of temptation and crime
Than deliver from dungeon or galley;
Better put a strong fence round the top of the cliff,
Than an ambulance down in the valley!

—Selected.

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

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EDITORIAL STAFF.

GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

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To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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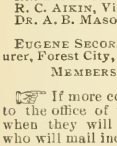

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

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The editor of the American Bee Journal is using the "Barler Ideal" Oil Heater, and it is all right in every way. We liked it so well that we wanted our readers to have it too, so we have recently arranged with its manufacturers to fill our orders. The picture shown herewith is the one we recommend for general use. It is a perfect gem of a stove for heating dining-rooms, bed-rooms, and bath-rooms. It hinges back in a substantial way, and is thoroly well made thruout. The urn removes for heating water. The brass fount, or well, has a bail, and holds nearly one gallon of kerosene oil. It is just as safe as an ordinary lamp. You wouldn't be without it for twice its cost, after once having one of these stoves. Most oil-stoves emit an offensive odor, but this one doesn't. Its hight is 2½ feet, and weighs 20 pounds, or 30 pounds crated ready for shipment, either by freight or express.

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The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

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The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., DECEMBER 5, 1901. No. 49.

Editorial.

The Cry of Adulterated Honey, heard lately in Chicago, is bound to interfere somewhat with the sales of the pure article. The Daily Tribune, of this city, had the following in regard to the subject, in its issue of Nov. 15, introduced by a heading in large type, "Law Stops Bogus Honey:"

Glucose honey, under the attractive guise of "pure clover honey," is invading the Chicago markets to such an extent that the efforts of the State pure food inspectors are largely directed toward investigations of this imposition. One entire carload of "honey," consigned to J. Dawson, of the Western Brokerage Co., 42 River street, from a California firm, was barred from the markets yesterday except as a plainly labeled adulteration.

The analysis of the "honey" composing the consignment showed that it contained from 50 to 60 percent of glucose, and as "pure honey" the stuff was condemned. The consignee had the choice of selling it as a glucose mixture or of sending it back, and he chose the latter course, at the same time cancelling other orders which would have brought other large quantities of the glucose honey into Chicago.

HARM IS TO THE PURSE.

Unlike many of the adulterations which flood the market, the glucose honey is not regarded as an injurious mixture, and the Pure Food Commissioners affirm that the imposition on the purchaser is one which injures his pocket-book and not his health. The dealer has the right to sell the "honey" under the label of glucose mixture, and as such it is worth about one-fifth as much as real honey.

One complainant, Dr. A. J. Park, 520 East Fiftieth street, said:

"I know of no place in Chicago where one can purchase a pound of pure honey. I called the attention of my grocer to the fact that his tin cases of "white clover honey' was manufactured stuff made up of glucose and paratline. He at once called on his South Water street merchant and demanded that his money be refunded, or that the merchant disclose the name and place of the party from whom he got the mixture, but he declined."

Similar complaints have been received by the Pure Food Commission, and investigations have resulted in the preparation of a list of offenders against whom suit will be brought for violation of the pure-food laws.

HOW TO DETECT IMPOSITION.

Commissioner Jones said it was comparatively easy for a purchaser to detect the imposition.

"Genuine honey," he declared, "has brown coloring around the cells. Glucose honey is perfectly white. The purchaser can detect the fraud by this simple rule. Honey, butter, and vinegar are the three articles in the purchase of which citizens are most subject to imposition just at present, and they are causing most of the work for the commission. Syrups may be classed with honey in this respect.

In the issue of the Tribune for Oct. 16 (the next day) appeared the cartoon which we reproduce herewith, and which only added insult to the injury done by publishing the interviews with Dr. Park and Commissioner Jones.

As soon as we could give attention to the matter, we wrote the following reply to the foregoing, and took it in person to the Tribune office, together with a beautiful section of white honey from our own apiary, and also a glass jar of the absolutely pure article:

CHICAGO, Nov. 19, 1901.

EDITOR THE TRIBUNE—

My Dear Sir:—I desire to call your attention, as well as that of your readers, to several matters that appeared in your esteemed

HOW DOTH THE LITTLE BUSY BEE—

He doesn't as much as he used to

THE TRIBUNE'S LIBELOUS CARTOON.

paper last week. Quite unwittingly you did a great injustice to an honest and honorable industry—that of bee-keeping or honey-production. Being somewhat of a representative of the bee-keepers of this country, I deem it due my constituency, as well as due the general reading public, that I endeavor to correct so far as possible the misleading statements that were published.

First, permit me to say that bee-keepers as a class are most persistently opposed to the adulteration of honey; their representative periodicals also have done all in their power to aid not only the enactment but the active enforcement of laws intended to prohibit the adulteration of honey, or compelling the mixers of the combless article to label it according to its exact ingredients. Then if people desire to purchase and eat glucose combined with honey, they "pays their money and takes their choice."

In the alleged interview with Mr. Jones, the Pure Food Commissioner of Illinois, as published, he is made to say:

"Genuine honey has a brown coloring around the cells. Glucose honey is perfectly white. The purchaser can detect the fraud by this simple rule."

Permit me to say that the above would be important if it were true. Unfortunately, or fortunately, there is no truth in it. First, much genuine comb honey is perfectly white in appearance; and, second, there is no glucose comb honey produced.

Again, Dr. A. J. Park, in the same item, is credited with this paragraph:

"I know of no place in Chicago where one can purchase a pound of pure honey. I called the attention of my grocer to the fact that his tin cases of 'white clover honey' was manufactured stuff made up of glucose and paratline. He at once called on his South Water street merchant and demanded that his money be refunded, or that the merchant disclose the name and place of the party from whom he got the mixture, but he declined."

It is almost exasperating to one who is at all acquainted with the honey business to read such a paragraph as that. Of course, even doctors ought not to be supposed to know everything, and so Dr. Park perhaps should not be blamed for not knowing where in all Chicago he could get a pound of pure honey. But there are tons upon tons of absolutely pure honey in Chicago at almost any time of the year. I can take the innocent Doctor to see several carlonds of the genuine article any time he will accompany me.

Dr. Park also conveys the idea that there is such a thing as manufactured comb honey—the comb made of paratline and filled with glucose. I want to say that the Doctor has now an excellent opportunity to get a larger single fee than he ever has received, or will likely ever receive in the future if his medical knowledge is on a par with his information about pure honey. There has been an offer of $1000 standing, but unclaimed, for 20 years, to any one who would find and present a single pound of comb honey which bees had no part in manufacturing. That offer is open yet, and I will personally guarantee that it is bonafide, or will make a similar offer. Now, gentlemen, either present that pound of manufactured comb honey, "or for ever after hold your peace" about it.

It is very unfortunate that the daily press does not seek its information concerning such matters from those who are in a position to know. It certainly would not go to a blacksmith to learn of the production of silk; then why should it accept the dictum of those who don't know a bee from housefly, when they desire information on honey-production?

I do not believe that The Tribune would willingly injure any honest industry, but in publishing such matter as I have referred to, and also the cartoon on "How doth the little busy bee," in the Nov. 16th issue, it is placing before its readers untruths, and at the same time doing untold injury to the producers of genuine honey throughout the whole country.

Yours very truly,

GEORGE W. YORK,
Editor American Bee Journal.

As a result, a few days later the following appeared in The Tribune:

SAYS MUCH HONEY IS PURE.

EDITOR OF THE AMERICAN BEE JOURNAL TAKES EXCEPTIONS TO STORIES OF ADULTERATION.

That the bee-keepers as a class are opposed to the adulteration of honey is averred by George W. York, who, as editor of the American Bee Journal, is in close touch with the industry. Mr. York declares that there is plenty of pure honey on sale in Chicago, and takes exceptions to statements that have been made by men who are supposed to know something about pure food. In a letter to The Tribune he says:

"The bee-keepers have done all in their power to aid not only the enactment but the active enforcement of laws intended to prohibit the adulteration of honey, or compelling the mixers of the combless article to label it according to its exact ingredients. In an interview Mr. Jones, the Pure Food Commissioner of Illinois, is made to say:

"'Genuine honey has a brown coloring around the cells. Glucose honey is perfectly white. The purchaser can detect the fraud by this simple rule.'

"This would be important if it were true. Unfortunately, or fortunately, there is no truth in it. First, much genuine honey is perfectly white in appearance; and, second, there is no glucose comb honey produced."

The carload of honey referred to in the first quotation from The Tribune, is extracted honey in tin cans. We looked it up both at the offices of the Pure Food Commission and the Western Brokerage Co., and found that the chemist of the former had discovered about 25 percent glucose in the sample submitted to them by the Western Brokerage Co., the latter firm having become suspicious of the honey. After hearing the result of the analysis, they reported it to the California firm from whom they bought it (in Oakland, we believe), and were holding the honey subject to the orders of the California firm, it being still in the car. We understand that the California firm declare it is pure honey, and that their representative is coming on to Chicago to prove it. He will likely have a hard job of it—if he comes.

We believe The Tribune, in publishing the statements credited to Dr. Park and Commissioner Jones, has done more damage to the cause of pure honey than it can remedy in a long, long time to come. Also, the cartoon, which pretends to illustrate how so-called "comb honey" is manufactured, is another unfortunate thing. Already, we hear that Chicago grocers are feeling the ill effects of the misleading reports and misstatements published by The Tribune, and their honey sales are diminishing accordingly. One dealer said that the falling off in the sales of pure honey would be at least 25 percent. While all lovers of truth and right will appreciate the slight correction which The Tribune published a few days later, it could hardly have done less, in justice to the honest people and industry which it misrepresented, than to have given *in full* the letter we wrote for publication.

It is exceedingly unfortunate that newspapers do not apply to those who are in a position to know the facts concerning technical matters. With all the bee-keepers living in and around Chicago, and of such easy access, there need never be anything misleading, or the least bit untrue, given in the public press concerning bees or honey-production. But it would not be quite so discouraging, if, when an error has been published, there would be shown some anxiety to have it corrected, so that the injustice could be righted as nearly as possible.

Let us hope that more care may be exercised hereafter on the part of those who think they must write or speak on subjects with which they are wholly unfamiliar.

The Buffalo Convention.

Report of the Proceedings of the Thirty-Second Annual Convention of the National Bee-Keepers' Association, held at Buffalo, New York, Sept. 10, 11 and 12, 1901.

(Continued from page 759.)

CREATING A DEMAND FOR HONEY.

"How can a demand for honey be developed in a city where at present there is little or none consumed?"

Mr. Niver—I have been for six months now working up a demand for extracted honey in private families by house-to-house canvassing, and I must say that I am delighted with my success, by going direct to the family, sitting down and telling them how we get it; showing them pictures of our extractors, and taking along some foundation, and so on. Getting them interested in the bee-talk, I can sell them, perhaps, a pound, or ten pounds, and in about a month I go around again. I have found that there is a demand worked up that way which brings good results, and by going the third or fourth time I find that the demand is not diminished, but increased. People do not know that honey is the cheapest sauce that can be bought. Everything is very high in the line of sauce. Fruits are very high, and the working people feel that very severely. Now we are having boom times, and the most prosperous times known to this country, and the hardest times for a man to support his family on his wages that I have ever seen. By going direct to the people themselves, and teaching them about extracted honey, not comb—they look on comb honey as a luxury beyond their pockets. I have tried this method for six months and I have two or three different towns worked up. I find that the trade is growing in most towns, and in a little while we will get so that we can get our bulk honey into the groceries. We can not do it now. You can not sell honey in a bottle, with a nice label on it, for 25 cents a pound. You have to offer it at reasonable rates by the pound, and then you can sell it.

Mr. Cook—How many of those lectures could you give a day?

Mr. Niver—I don't know; I talk several hours a day.

Mr. McEvoy—What size of samples do you usually sell?

Mr. Niver—My method is to take along the honey in 10-pound cans. I go into the house with a quart milk-bottle and a teaspoon inside of it, and ask for a small dish to put some honey in; and I get them all in there eating honey, and I make them use their own spoons. While they are doing this I am explaining how we get it. I have been selling 8 pounds for a dollar, for fine white honey. The great majority of people get paid once a month; if you go just after pay-day you can sell a great deal more than you can before.

H. C. Ahlers—Would you kindly give us figures of what you could sell in a day in that way?

Mr. Niver—I have sold 300 pounds in a day, and I have sold as low as 35 pounds in a day.

Mr. Ahlers—I sold a thousand pounds in two days, in 3-lb. Mason jars and 13-lb. pails; ten cents a lb. straight. If a groceryman wants my honey it is worth 10 cents a lb. I sell to private families for strictly cash, in Milwaukee and vicinity. I weigh in the pail. The pail costs $11 a hundred, and I weigh the pail in. This gives me about 9½ to 10 cents for the pail. I lose about 1½ cents on the pail. I sell the honey in the Mason jars without the jar. I go to private families and keep a record of them. I know where I am going when I start. I take a thousand pounds along, and make the trip in two days. I sold 8,000 pounds in six trips, 2,000 pounds around home. I sold my own crop of 6,000 pounds, gathered from 37 colonies, and bought 2,000 lbs.

Mr. Howe—I feel sorry for a bee-keeper who produces honey and can't sell it. I can't produce enough to fill my orders.

J. H. Fuller—For the benefit of comb-honey men, I wish to say a word or two. I retail comb honey, and I retail from 100 to 300 lbs. a day in small towns in Cattaraugus County. I take it from house to house, the same as these gentlemen retail their extracted honey. I am getting 15 cents a lb. for No. 1 honey, and for dark honey all the way from 8 to 10 and 12 cents, according to the quality. I go on Tuesdays. Our pay-day is Monday, and I want to go when they have money.

W. L. Coggshall—The wholesale price is retail; no trouble to sell that way.

Mr. Niver—I have heard a good deal said on what package we shall put our honey in, but I have got so that I believe I don't want any package at all. I prefer every time to have the lady produce her own package. She is sure it is clean, then.

Mr. Ahlers—Well, people offer me a package and they offer me butter-crocks. I live about 28 miles from Milwaukee. I would have to haul their butter-crocks. I allow them 10 cents for the pail.

Mr. Tyrrell—I would like to ask Mr. Niver what argument he uses to answer the question why extracted honey is cheaper than comb honey.

Mr. Niver—By showing the picture of the extractor and telling them that the bees build the comb only once, and we put it back and they fill it up again.

Mr. McEvoy—I think if every State in the union, and Canada, had some one going around in that way, talking to people, it would be a good thing.

Huber Root — For the past two months I have been seeing a great many people at the Pan-American Exposition, and I find eight out of ten of them imagine we mash the comb up and squeeze the honey out through a cheese-cloth; they know absolutely nothing about bees, or anything about the way extracted honey is secured.

Mr. Vinal—I think it is a good plan, but we are not all able to hire so smart a man as Mr. Coggshall is able to hire.

Mr. Tyrrell—It is true that not all of us are salesmen. The majority of people who produce honey are not capable of selling that honey by a house-to-house trade where we have to take up the time to explain how the honey is produced and why it is cheaper. The plan that I used was to put up my honey in suitable packages, then taking a circular which was just as brief as possible, explaining how the honey was produced—I would use say quart fruit-jars—and leave this package and circular, together with another small circular telling the people why I left it in this way. Ninety-nine out of 100 people, as soon as they step to the door and hear you have something to sell, say "No." I leave the package of honey and the circular, take the number of the house, tell them I will call again on a certain day, and pass on. Then I would go over the same territory a second time, and I found that if I left it long enough—perhaps a week—if they were honey users, they had sampled the honey, found it was good, and would pay for it.

Mr. Longnecker—I would like to ask if Mr. Tyrrell ever left a jar of honey at a place, and when he came again in a week and the honey hadn't been used and they didn't want it.

Mr. Tyrrell—I found there was only one place where anything like that ever occurred, and that was at the house of a lady where the honey had decreased perhaps an inch, and she said it had run over the top! That is the exception.

Udo Toepperwein—Do you label all your honey?

Mr. Tyrrell—Yes, sir, telling where it is produced.

Mr. Toepperwein—We label all our first-class honey, and get the groceries to sell it, and after the people get to use it it will speak for itself.

Mr. Vinal—I have had a little experience in selling comb honey, and my plan has been to put the honey in show-cases, properly labeled, and place it in the stores on the commission plan, and let them sell it at retail. I get 25 cents for it retail, and 20 cents at the stores.

SELLING HONEY THROUGH THE STORES.

"Would you sell honey through the stores?"

Dr. Mason—I think that has been answered already.

Mr. Toepperwein—If a person has plenty of time, I think they would do better to retail it.

Mr. Fuller—I wouldn't take it to the groceries, for this reason: I don't want groceries enough to pay for what honey I have. I would rather have some money, and most of the grocerymen in my section want me to take trade. If I want any trade I have no objection to selling them one or two cases of honey, but where I want the money, and don't want trade, then I retail it and get the money for it.

Mr. Niver—I would like to ask at what price he sells to the grocerynman.

Mr. Fuller—The same price—15 cents a pound.

Mr. Niver—And what do they sell it for?

Mr. Fuller—They make their profit on the goods they give me.

Mr. Niver—I have been a grocery-man for many years and you couldn't teach me that.

Mr. Fuller—You talk about the price of 15 cents being low; I can go to commission houses today and buy No. 1 white clover honey for 13 cents a pound.

Mr. York—I think it makes a great deal of difference where you are. I would by all means work through the groceries in large cities. Probably you couldn't do that in small country places, where there is only one or two groceries—there you'd have to sell from house to house.

Mr. Vinal—Speaking about the price of honey, I would like today to buy 500 lbs. of comb honey at 13 or 15 a cents a lb. delivered at my place, for my trade at the stores. I would pay 15 cents a pound for 500 lbs. I can not get it in Boston.

Mr. Fuller—I would like to ask one more question of these gentlemen who retail their honey in the cities, whether they have any trouble with the authorities, whether they have to obtain a license to do their work, or whether they go on without being molested by anybody.

Mr. Ahlers—I am a bee-keeper, and I have a right, at least in Wisconsin, to sell my own produce. Now, I don't know if I have a right to buy the honey and sell it, but those questions are never asked. I have sold it to several policemen, who never asked me any questions, and I think there will be no trouble at all.

E. Granger—I have noticed one difficulty about retailing honey, and that is, there are so many bee-keepers who sell for the same price at retail as at wholesale. In the district where I live there are quite a few bee-keepers in a small way, and they generally run out of all the honey they have for sale, and then try to buy at wholesale, and find they cannot; it is all being sold at the same price, 1 lb. or 100 lbs. When I have sold out what little I have, and want to get more at wholesale, I cannot get it.

Mr. Miller—With us we have to protect the groceries. If I sell honey at 10 cents retail I must cut to the grocery trade, and I always protect them by that means. I still sell at retail, as much as possible, and at the present time I am getting 11 cents for my extracted honey, including the tins.

ARE QUEENS INJURED IN MAILING?

"Does it injure queens to send them by mail?"

Dr. Mason—Yes.

Mr. Benton—No. It does injure them if they are improperly packed; if well packed it does not, I believe.

Dr. Mason—I would agree with him, but I never saw one well packed yet.

J. M. Rankin—I think the danger to queens sent through the mail is about as great as that of a person traveling on a railroad, provided the bees are properly handled.

Fred Schmidt—Do you think they are properly handled today, the way they are thrown out and kicked around? I do not.

Huber Root—I think the trouble is in the confinement in passage through the mail, and not particularly from the rough handling. You take a queen when she is laying well and shut her up for several days, and keep her right in the hive and she will not do so well after it.

W. W. Lathrop—Take queens and cage them properly, pack them, keep them a week, then liberate them and see if you can not notice a difference. I have tried quite a good many experiments. I was led to it from buying queens. My experience is that they do not lay so regularly. The combs will not fill so well. There are more "skippers," and she will begin to fail sooner.

Mr. Benton—I receive a great many queens from different countries, and often as far as the Island of Cyprus, and those queens were well packed. I prepared the cages myself, sent them there and gave careful instructions as to how the bees should be put into them, and in no instance have I been able to perceive that those queens that had been from 16 to 20 days in the mail sack, and traveled 6,000 miles, had been injured by that journey.

Mr. Gemmill—Aside from the packing don't you think that the caging of a queen a few days before she is shipped has a great deal to do with the safe delivery of the queen?

Mr. Benton—I don't practice that. One point has been brought up, that of throwing the mail-sacks from the train. In cases where I knew it was to be thrown from the train I enclosed the cage in a cloth-lined envelope, which would tend to protect the cage in case of a shock.

Mr. Fuller—What kind of a cage do you ship in?

Mr. Benton—It is a small, wooden cage with three holes in it—a cage which I invented some years ago. One end has the food compartment; the center compartment is a dark chamber with only indirect ventilation; at the other end is the ventilating chamber.

Mr. Fuller—How many bees do you place in there as an accompaniment?

Mr. Benton—From 10 to 20, according to the time of the journey.

Dr. Mason—One of two things is certain: The queens are injured in the mail, or else the queen-breeders send out poor queens. I have paid as high as $8.00 for a queen and I would not give eight cents for it finally. Every last one of them—except one I got last year—proved to be poor.

Mr. Cook—There are hundreds of testimonies that they are good and they do produce good and prolific bees.

Dr. Mason—Yes, sir, I can give you one good one out of eight.

Mrs. Acklin—We not only send out queens through the mails, but we get in queens, and it is very seldom that we get one that is not all right.

BEES MOVING EGGS.

"Do bees move eggs from one cell to another?"

Mrs. Acklin—I think they do. I think they move an egg occasionally from one hive to another.

Mr. Gemmill—I am quite satisfied they move eggs from one cell to another.

MATING OF QUEENS.

"In queen-rearing, are the evils of in-breeding greater to mate father and daughter, or sister and brother?"

Dr. Miller—You are asking a question about which is the worse of two things, either of which is impossible. You cannot breed father and daughter, because the father is dead before any of his children are born. You can not mate sister and brother, for the drone has no sister except his mother. In this matter of breeding it is a matter of close blood you are considering, and whatever you may call them the queen is the daughter of her mother, and also the daughter of the drone with which the mother mated, but the drone is the son of his mother. Now if you say he has any father, it must be his grandfather. He has precisely the same blood as his mother. So when you are considering breeding in cattle the nearest that you can have is between brother and sister; and that near blood in this case is between the drone and his mother, so that if you take it in the sense that you are talking about other animals, the drone is the brother of his mother.

RED CLOVER QUEENS.

"Are the progeny of what are advertised as red clover queens better honey producers than the progeny of queens reared by other queen-breeders?"

Mr. Greiner—I notice that all queen-breeders today advertise the red clover queens; none have others.

LONG-TONGUED BEES.

"Are long-tongued bees desirable?"

Mr. Howe—As I sent Mr. Root a bee a while ago, and he sent me back word that she had as long a tongue as any he had measured that year, I would like to tell you the difference between that colony and common colonies. These bees with long tongues gathered honey when my black bees were starving to death. The black bees were really starving, and these bees weren't robbing.

SPELLING REFORM.

"Is reform spelling desirable in bee-keeping?"

Dr. Mason—Yes.

Mr. Ahlers—No.

Dr. Mason—Desirable everywhere.

SELECTING A HOME BEFORE SWARMING.

"Do bees ever select a home before swarming?"

Dr. Miller—Yes.

Mr. Callbreath—Sometimes; not always.

MATING WITH AN IMPURE DRONE.

"Does a pure-blooded queen become contaminated by mating with an impure drone, so that her drone progeny will be impure?"

Mr. Cook—No.

Mr. Benton—I don't think she does, practically. There are some very curious effects, but it seems to me that the question is open to a slight dispute. That is as far as I would go in it.

Dr. Mason—Now, the queen mates with the drone and secures what seminal fluid she wants for life, does she not?

Mr. Benton—Supposed to.

Dr. Mason—Can she keep up that supply without renewing it in any way, so as to fertilize the thousands upon thousands of eggs that she lays.

Mr. Benton—I should suppose she might keep up that supply during a fairly long life, but, as we well know, that supply is often exhausted, and the queen is utterly exhausted and lays drone-eggs.

Dr. Mason—Then she doesn't in any way add to the supply of that seminal fluid from herself—no growth of it at all?

Mr. Benton—No, I don't think that is possible.

Dr. Mason—Then, if that is not possible, the progeny can not become contaminated in any way?

Mr. Benton—Except by the possibility of her having mated the second time.

Dr. Mason—Mr. Doolittle thinks that the queen does in some way add to her supply of the seminal fluid, so that she can keep that up; if she does, then may she not be making that impure?

Mr. Benton—I don't think impurity comes in that way. It is the presence in the system of this foreign substance—a substance derived from the male bee—which contaminates the blood of the queen-bee, and thereby the drones.

Dr. Mason—Now, will it do it?

Mr. Benton—That is the question that is unsettled.

BEE-SPACE OVER BROOD-FRAMES.

"Why should the top-bar of the brood-frame of the Langstroth hive be below the top of the edge of the hive instead of even with the top? Is there any advantage in having the bee-space on top of the frames in the brood-chamber, or under the frames, and have the bee-space on the under side of the super?"

D. H. Coggshall—In extracting honey it is very essential to have a bee-space on top.

Dr. Mason—There certainly is an advantage in having the bee-space on top instead of the bottom. If there is no bee-space on the bottom, and you set the hive down with bees on the bottom of the frames, you are liable to crush them. In my hives I have the top of the frame even with the top of the hive.

John Fixter—We have both above and below, and I wouldn't have a hive in the yard that didn't have a bee-space above.

Mr. Betsinger—No hive is perfect by omitting a bee-space on top of the frames. If the space is omitted on top of the frames, and the same is added underneath the frames, where you use the two in connection, and when the season is good, and they are somewhat crowded, they will place burr-combs between the lower frames and the frames above. Now, in removing those frames, if the bee space is underneath the hive—not on top—then these burr-combs adhere to the ends. If the bee-space is omitted on top of the brood-chamber, and is put in the super, you are living under the same disadvantage—as you change supers from one hive to another those burr-combs must be removed.

The convention then adjourned until 1:30 p. m.

THURSDAY AFTERNOON.

The convention was called to order by Pres. Root.

CHANGES IN THE CONSTITUTION.

Mr. Abbott—I have a matter I would like to present, and before I do that I would like to tell the members of this Association something that I think they ought to know. This room is occupied by a great many societies, and the janitor who looks after it said that you had been the cleanest set of people that he ever had anything to do with; that you didn't smoke, or chew, or make the room dirty, and I thought you ought to know it. You can see that it pays to be decent. I have here a recommendation of the Board of Directors which I wish to read. The directors present at this meeting recommend the following amendment to the constitution: "Art. IV., Sec. 1, to be changed to read as follows: 'The officers of this Association shall be a General Manager, a President, a Vice-President, a Secretary, and a Board of twelve directors, whose term of office shall be for four years, or until their successors are elected and qualify, except as provided in Sec. 2 of this Article.'" Now, the change in that Article is this: The present Article says the Board of Directors shall consist of the General Manager and twelve directors, making the General Manager a member of the Board of Directors. Now, our reason for wanting to make this change is that the General Manager is an employee of the Board of Directors, and we want to make it so that the Board of Directors will control him, and he will not be a member of the Board, and that gives the Board a chance to do what they are empowered to do in the next Article, which I will read.

Dr. Mason—That simply provides for removing the General Manager from the position of a Director.

Mr. Abbott—That is all. He continues as secretary of the Board and as General Manager. "To Sec. 8. of Art. V., add the following: 'And said Board of Directors shall have power to remove from office the General Manager for any cause they may deem sufficient, and fill the vacancy until the next annual election.'" Now, this amendment has no reference to the General Manager at present. It just provides for a contingency that might arise. It gives the Board power to say to him, We don't like this way of doing, and we will simply remove you until the next election. And then the members can elect a General Manager just as you have been electing him.

Moved by Dr. Mason, and seconded by Mr. Benton, that the convention endorse the recommendations made by the Board of Directors. Carried.

CARNIOLAN HIVE-ENDS, ETC.

Mr. Benton then exhibited some front ends of Carniolan hives which he stated had been in use many years, one of them since 1838. He spoke of the effect of the bees clustering in front of them, they making no impression on the board where it was painted, showing that they were unable to grasp smooth surfaces, such as the smooth surface of fruit. He further said: These hives open at the rear end, and in Carniola their plan is to feed highly and stimulate until the time for swarming comes, and get them in condition for the buckwheat harvest. Probably

19-20 of the bees in Carniola are in box-hives.

Mr. McEvoy—How is the yield of honey?

Mr. Benton — Very good, indeed. There are miles and miles of buckwheat. In extracting the honey, they first put it in a sack, comb and all, and then subject it to great pressure. Of course, it is "strained" honey, and contains quantities of pollen. It is excellent bee-food, though. It stimulates brood-rearing more rapidly than the feeding of sugar.

Mr. Barb—If they were to save their bees, would the country have too many?

Mr. Benton—I don't think they would. They take out their weakest colonies. Foul-broody colonies are almost sure to be taken out.

Mr. McEvoy—What are their winters like?

Mr. Benton—Very long and severe. I saw the mercury once 20 degrees below zero, and very deep snow in most of the province. It is elevated from one to ten thousand feet above the sea level. It is quite cold in October, and very cold in November, and it lasts until March and April, with a very long, cold spring following away into May. The percentage of loss of bees in the winter is quite small, and spring dwindling is a thing almost unknown. The winds sometimes change very suddenly, bringing a thick fog down into the valleys, and thousands of the flying bees are killed then, but, notwithstanding that, the colonies are so prolific that they revive very quickly. During the buckwheat harvest the same thing occurs. I have sometimes seen all of the working force of a colony wiped away in a single hour, and thereby the hope of any future yield of surplus honey during that harvest was entirely precluded.

(Continued next week.)

Contributed Articles.

Gathering Not in Proportion to Length of Tongue.

BY G. M. DOOLITTLE.

DURING the spring and early summer of 1901 quite a little was written regarding the high gathering qualities of bees having long tongues, and many advertisements were inserted in our bee-papers, holding out inducements to purchasers, prominent among which was long tongues, as the bees having such were the ones which secured the greatest yields of honey; and especially so in districts where the red clover was grown by the farmer for hay and pasturage for his flocks.

At that time I did not dream that I should have any chance to know for myself of the correctness of this long-tongue matter, for nearly a score of years had elapsed since red clover bloomed or gave seed in these parts, owing to a very small weevil, called a "midge," working in the head of the clover just before the blossoms were to open, this causing the blossoms, while in the bud, to blast, so that not one bud in a million came to perfection. But the past season, from some cause or other, the midge seemed to be absent, and before I was hardly aware of it, my eyes beheld hundreds of acres becoming red with the bloom of red clover.

And at about the same time the weather became hot and favorable for honey-secretion, so that by June 20 we had a yield of honey on, second to none that I had ever known at that time of the year. In fact, the flow of nectar was nearly, if not quite, as great as any I had ever known from basswood when at its best, except that the nectar is always thinner from clover than from basswood. And this flow of nectar from clover continued, in varying degree, clear through the basswood yield and up to August 1, thus helping greatly to finish up and complete nearly all the partly finished sections remaining at the close of the basswood bloom. As a result, I obtained (together with what was secured from buckwheat, which gave only a light flow) the largest average yield, from colonies not robbed for queen-rearing, of any ever obtained during the 32 years I have kept bees, namely: an average of 176 pounds of section honey per colony at the out-apiary, and 180 pounds here in the home yard.

In the home yard I had two colonies close to each other, one being headed by a queen from my original honey-gathering stock, and the other by a very fine-looking queen procured by way of exchange, during 1900, from a bee-keeper in Iowa. These colonies were as nearly alike as to outward appearances in early spring as two peas, but as the season advanced the brood in the colony having the Iowa queen outstripped that from the other by thousands of cells, till I began to think I had a prize in this new queen; but when the season closed I found that I had from the colony headed by the queen of my rearing, 261 completed one-pound sections, 21 partly filled, and 42 pounds in the brood-chamber; while the colony having the Iowa queen gave only 44 poorly filled sections, none partly filled, and had only 12 pounds in the hive October 1, so that they had to be fed 13 pounds for wintering.

Remembering that I had seen somewhere in the bee-papers that if we would be fair in testing this long-tongue matter, bees from the colony giving the poorest yield of honey should be sent as well as those from the one giving the greatest yield, I bethought myself to send a dozen of these bees, (from each colony) to Prof. Gillette, of the Colorado Agricultural College, as he had asked for bees to measure, through the columns of the American Bee Journal, and I accordingly did so. When Mr. Gillette reported he gave as the average of "Lot 1" (from my queen) 25.4; and of "Lot 2" (from the Iowa queen) 25.6, the same being in hundredths of an inch. So it will be seen that the colony giving less than one-sixth the yield of the other, really had the longest tongues.

Both colonies were managed as nearly alike as could possibly be done, up to about the first of July, when the Iowa bees began to swarm, and kept it up more or less, all through ten days of the best part of the harvest. They were not susceptible to the management of the apiarist as were the others, but with the honey harvest they went to an excess in breeding, and used up the honey which they gathered in breeding a superfluous number of workers which took to swarming rather than to honey-gathering, and thus the season was frittered away to little advantage to the apiarist.

My observation has been the same this year as in years past, that the bee which is the most susceptible to the management of the apiarist, so that a maximum amount of bees can be brought on the stage of action, with little, if any, desire to swarm, just at the commencement of the honey harvest, with as few bees at all other times as is consistent with this object, is the bee which rolls up the honey to the account of the apiarist every time.

But I hear some one saying that the length of the tongues of these bees varied only two-tenths of a hundredth of an inch, anyway. This is right, and from considerable correspondence of late I am led to believe that Italian bees from various parts of the country, and from colonies that gather little or much honey, all have tongues of practically the same length. Had the tongues of Italian bees from colonies giving the poorest yields of honey been measured on the start, instead of offering prizes for the longest tongues which gathered the most honey, more real facts would have come to light, with less of public deception.

It is always well to go a little slow until assured of the ground upon which we stand, lest some one may be deceived by statements which are made prematurely; the same being premature through our not having investigated till we have gotten at the bottom facts in the case.

Onondago Co., N. Y.

A Short Report—Selling Honey too Cheaply, Etc.

BY MRS. L. HARRISON.

OUR honey is all taken off, and put away nicely (Oct. 28), and I estimate that there is a supply for two families, from our apiary of 40 colonies. Our apiary, prior to this decade of poor seasons, numbered 125 colonies, but the losses each succeeding winter were more than the summer's increase; and this is the condition of apiaries generally in this part of the State.

A grocer who advertises largely announced lately that he had some fine honey of this year's production, which he was selling at 15 cents per pound. Honey was worth 20 cents, but he had a chance to buy 250 pounds cheap, and his customers should have the benefit of it.

When there is a short crop of corn or potatoes, the price goes up, and why should not honey? No fine comb honey should be sold for less than 20 or 25 cents per pound at retail. There has been a steady decrease in the number of colonies, and a less secretion of nectar than formerly.

I think that there are more sources for honey in the city, per acre, than in the country. At almost every home a few flowers are cultivated; lawns are sprinkled frequently with a

hose attached to hydrants, and the modest white clover dots the green. Porches are shaded with Columbine or Maderia vines, which are favorites with bees; there are beds of portulaca, mignonette and other flowers. The city parks have much bloom, and sweet clover, both white and yellow, have pre-empted all unoccupied land. A failure of fall honey has never been reported in this locality.

PREPARING BEES FOR WINTER.

I get everything ready beforehand. I use new sheets of Indian-head muslin every year; tear it up so large that it will extend over the edges of the hive, so that when the cap is shut down upon it, it is utterly impossible for a bee to get up into the cap. I pick off all ravellings, iron them smooth, and pile them up on a board. I gather baskets of dry maple leaves. When all was ready, on one of our quiet October days, I uncovered the bees, put a Hill's device upon the combs, spread over the sheet, and set on the cap or upper story, poured in a good bed of leaves, and a chaff cushion above them; then the cover with a piece of section between it and the cap, thus making a little crack, so that fresh air will circulate above the packing. This was all done so quietly that the bees were not disturbed, and no smoke was necessary. The chaff cushions have been in use a good many years, so I put in leaves, as chaff is not handy to get.

The hives were all heavy with well-ripened, sealed honey, gathered from sweet clover, goldenrod, Spanish-needles, boneset, polygonum, and other wild and cultivated flowers.

MULBERRIES.

One year the last of April, I visited the navy yard at Pensacola, Fla., and while there gathered a handful of ripe white mulberries; they were very rich, and so juicy and sweet that they made my fingers sticky. A friend, who was a missionary many years in Turkey, says that in that country they press out the juice, boil it down into a syrup, and call it "honey." The residue—skins and seeds—they dry, and keep to feed their donkeys during the winter.

Peoria Co., Ill.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Feeding Bees for Winter Stores.

I got caught in that cold spell, and one colony is short of stores; that is, it has a little over eight pounds of unsealed syrup.

1. Will that unsealed syrup cause trouble?

2. How can I make sugar candy? I made some last winter, but it was so hard the bees could not take it. I made it according to the books.

3. How much candy should I give that colony to carry it through the winter? That is, how many pounds of sugar should I make into candy?

4. Are four Langstroth frames full of honey enough to winter a strong colony?

5. Are forest leaves a good, warm packing?

MINNESOTA.

ANSWERS—1. There is some danger of it, especially if it was fed late. There will be less danger of trouble in the cellar than outdoors.

2. I doubt being able to tell you any better than the books. Two kinds are given, Scholz or Good candy, which is perhaps the better kind, being a stiff dough made by kneading extracted honey into sugar; and the old kind made by evaporating sugar syrup. It is quite possible that your candy was all right. No matter what kind of candy you have, the bees in winter are not likely to take it unless it is very easily within reach. See that the candy is directly over the cluster, or else that it is in a frame hung close beside the cluster so as to touch the bees.

3. Having already 8 lbs. of syrup, 22 lbs. of candy will do for a full colony.

4. Yes, if by "full" you mean bulged out from top to bottom and sealed out to the lower corners. But as you are likely to find them in the brood-chamber, six or eight would be nearer the mark.

5. Yes, if dry, they are excellent.

Various Questions.

1. Will Italian queens reared from a thoroughbred mother mated to a black drone produce as good honey-gatherers as if mated to an Italian drone?

2. Does it take more honey to winter a colony of Italians than a colony of blacks?

3. Do queens lay during the night?

4. Do the worker-bees work in the hive at night, such as build comb, feeding larvæ, etc.?

5. About how much honey does it take to winter a colony of bees in this latitude? Our bees usually start to swarming here about the first of April, if the spring is not late.

SOUTH CAROLINA.

ANSWERS—1. Sometimes they will, and sometimes not. The first cross are generally good, but after that the improvement generally goes backward.

2. You will probably find no difference, if you compare 100 colonies of Italians with 100 colonies of blacks of equal strength. You will find considerable variation, however, in single colonies, whether yellow or black.

3. Yes, indeed.

4. Yes, indeed.

5. I don't know, but I think it is not safe to have a colony go into winter quarters with less than about 30 pounds, unless you expect to feed them in the spring before flowers appear. If I am wrong in this I wish some South Carolinian would correct me?

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses. By E. E. HASTY, Sta. B Rural, Toledo, O.

DR. STRICKLAND NOT FOR "MELTOSE."

I hasten to make amends for a particularly atrocious meanness of my blundering pen. Dr. Strickland was not acting as the friend of meltose when he sent a sample to the office. More care in reading up the whole thing should have shown me that. I heedlessly, though sincerely, located him on the wrong side of the fence and went on. Monkey at the lever of a 100 H. P. machine is capable of mischief, is he not? Page 611.

THOSE TWIN BRIDES.

Compliments to those twin brides and their grooms on page 721. Doubtless the boys themselves (on a slight inspection) can tell the brides apart. If the rest of the world makes a mistake occasionally, why, that doesn't signify.

FIXING UP OTHER PEOPLE'S LANGUAGE.

And so Dr. Miller wants Prof. Cook and myself to settle matters between us. Might as well ask Kitty and Towser to settle their differences by a little private confab in the back yard! I just keep getting madder and madder all the time. It's just monstrous the way Prof. Pharaoh Cook is trying to compel 100,000,000 people to make bricks without straw! All who speak the English tongue come in contact with certain familiar objects. *They have to call them something.* Not one in a hundred of all these people *can* tell which is worm and which is larva—haven't the entomological knowledge required to do it. But here comes Pharaoh and says, "You must, or I'll take your dirty, ignorant lives!" Leastwise, if he doesn't put it as badly as that, he is on the road in that direction—"I'll brand you as disgraceful perverters of the English tongue." If it was only one case, and entomology was the only science extant, we might think of yielding just for the sake of peace in the family. But science has a hundred branches (going to be); and nobody is, or possibly can be, familiar with all: but all, I fear, will have Prof. Cooks that will be emboldened to make similar demands of us, if we do not stand for our rights. Suppose a few hundred astronomers should insist that the entire English public leave off saying "shooting stars" and say "bolides." And what a supreme

ass a geologist would make of himself trying to make everybody use the term "rock" precisely as he uses it! Call out the police and the ambulance, Dear Boss; I'm going to throw the imposing stone!

In some things the rich man has more rights than the poor man; and the learned man has more rights than the unlearned. That may sound shocking to some, but I will grant it freely. *But*—the right to have a language to express his ideas—a language in which he *can* express his ideas, without distress, and without annoyance, and without being called a fool—that does not by any means go with the above. That's one of the inalienable rights of man, like "life, liberty, etc." When it comes to that, the college professor is only 1 divided by 100,000,000—same as all the rest of us. He can take his chances with the language as the millions make it; or he can have a private dialect for his own little company—either one; but he can't impose his little dialect on the millions—too big a dog for so small a tail to wag. It would, indeed, be nice if everybody knew everything, and used terms in accordance with his knowledge; but I honestly think it might be well to accept less for awhile. And possibly the command to "Condescend to men of low estate" may reach even to the campus where hats are seen with mortar-board tops. Pages 730 and 698.

UNCAPPING AND RENDERING.

Quite an idea, that of J. B. Hall's—have the basket of the uncapping-can fit the solar wax-extractor also, and render the wax at once. But I, for one, hardly believe that shading the lower dish will prevent the sun from spoiling the honey. Page 660.

FLOWERS INTOXICATING AND HOLDING BEES.

When only few and rare plants were accused of holding bees by some sort of intoxicant the case sounded stronger than it does now that the attempt is made to accuse the basswood of the same thing. "Don't believe fish-story, too, now," is the frame our minds incline to take. Without much assurance, I rather think that all that the visible facts show is that bees will sometimes "board around" among the flowers. So doing, they save the honey which would be used if they took their meals at home. This, of course, when there is nothing on the range from which a load can be secured. If it is found that some bees spree it while others are bringing loads rapidly, that, I suppose, would be fatal to my suggestion. There is no intoxicant—nothing but smell—when they spend hours at the screens of the honey-house. May it not be that flowers hold them by smell alone, sometimes? Page 661.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

THE COW.

Is any home circle quite complete without the cow? I would never consent to be without this important adjunct in every home. In this day of food adulteration it is hard to know just what we are eating, but if we have our own cow, and do our own milking, we may be pretty sure on this point.

We are very fond of milk at our house, and none of us complain if a good proportion is richest cream. I take great pleasure in my glass or bowl of milk, and, I believe, as much in seeing the other members of the family as they quaff this pure and unobjectionable beverage. We are certain that in milk there are no impurities. In it, too, we get perhaps as balanced a ration as we can obtain anywhere. It is Nature's own concoction. We never grew so fast as when in our babyhood. Then milk was our exclusive diet. I suppose in milk we have just about the right amount of sugar which has no taint of glucose in it; just the proper proportion of fat, which is certainly one of the most appetizing and wholesome of all the varieties of oleaginous material; and in the caseine or cheese of the milk we have enough and most wholesome albuminoid.

I also like to take care of my own cow and to do my own milking. So many people are content to keep their cows covered with filth, and are so scrupulously careful not to brush or clean them as they commence to draw the milk, that I find it not at all agreeable to patronize the milkman. My cow must be as neat and clean as my driving horse, and I would not think of commencing to milk until the cow was absolutely clean in all the region about the udder. A private dairyman, whom I know, gets the creamery price for his butter. When asked why, at one of our Farmers' Institutes, he said, "I never milk without thoroughly brushing, and, if necessary at all, thoroughly washing the cows, all about the udders." Neither would I have any one milk my cow who would wet the teats before or during the milking. Wet milking and neatness never ride in the same carriage.

We have just secured a new cow. Five of us—nearest neighbors—share in the milk. Four families own the cow and share equally the expense and the profit. As I have said before, I think such partnership among nearest neighbors tends to harmony, and has more to recommend it than simple economy. Our new cow gives us nearly 20 quarts of milk a day. She does a good lot of eating. I like to see her eat. Of course, she must eat or she could not give us so liberally of her very substance. Where do we have a better example of real, personal sacrifice than we see in the cow? I fancy our cow has a sort of a benignant look in her very eyes. Mrs. Cook remarked only a few minutes ago, "How kindly our cow looks at us; and what a pretty face she has." I bethought me, "Why not? If any one has earned a right to look kindly it is surely one who gives herself, as does our cow, to add to the pleasure and happiness of others."

Our cow has been giving milk only a few days. The springing into action of the great milk-glands has made the udder tender, so that as I draw the milk the parts are irritated, and she raises her foot, often many times, when I am milking, and not always in gentlest fashion. There are two ways to meet this not wholly agreeable condition of things. I could use my boot or stool, and possibly she might be cowed into quietness. No doubt in doing this, even though I did succeed in quieting her, I should do it at the sacrifice of milk. Rough treatment or unkind words and a full flow of milk never go together. Many times, generally, I think I would fail to check the uneasiness, and if my cow was of nervous temperment, it would very likely ruin her.

The other course is to milk very gently, and perhaps very slowly, and thus not hurt even the sensitive milk-glands. I hardly need say that this is the way that I have proceeded, and I am very happy to state that it has worked like a charm. I am sure, too, that I am getting the full yield of milk, and just as sure that I am in no danger of ruining the cow.

I wonder if we all realize that we are never violent with our animals, especially with our cows, except at a great loss. We hardly realize how delicately sensitive our cows are to any disturbance. A large dairyman told me a few days since that he never changed his cows from one pasture to another without losing several pails of milk; and this even though he put them in a better pasture. The disturbance attending the change was what reduced the milk flow. The dog, the milk-stool, and the boot too often bring the same result.

Apropos to the above is the too common habit of pounding a cow because she does not "give down" her milk. The philosophy of yielding or withholding the milk is this: The milk is in very numerous small tubes, which are thickly set in muscular tissue. These small muscles are of the unstriated type, and are entirely beyond the control of the will. Thus, we are absolutely sure that the cow has no direct control of the matter. Rough treatment, which will produce a nervous shock, may effect to press the milk down into the teats. It will just as likely act the other way, and we have made a bad matter worse, and done a beastly, mean thing. In all such cases stooling or kicking are strictly in order; but the cow should not be the recipient.

CATS AND DOGS.

I don't mean cats and dogs in the sense of "scraps" in the home. Oh! that parents who suffer ill-will, fault-finding, family-jars to invade the sacred precincts of the home could realize their terrible mistake! They are bequeathing a frightful legacy to the precious ones entrusted to their care. Divorce has always seemed to me one of the blackest pages in our social history. Separation between the chief partners of the home circle is nearly as bad. Yet, I quite agree with Mrs. Wells, in the October North American Review, "The daily spectacle of a discordant home is worse for the child than the known separation of its parents." Cats and dogs, then, as used to designate fierce word-battles, where word-fights have no business, is not my theme—I mean real cats and dogs.

We have two tiger cats. We all like them, and if purring is a sign of contentment—and who can doubt it?—then our cats are not pining for a new home. No one would wonder at this, if he should see the great basin of freshest, sweetest milk that I give them twice daily, as I come always attended by them from barn to house. In fact, they always watch me as I milk. So I have to be neat and particular, as I am always watched. My wife and daughter insist on this full milk ration. I suppose they are right in thinking nothing too good for our cats. I often hint to them that if I ever do get jealous of those cats it will surely not be without provocation.

One of these cats is a beauty. He is as boldly striped as a veritable tiger. Everybody praises "Toots." "He is such a beauty." Toddles is more plain in garb. Few visitors discourse on his handsome fur cloak. I smile to see how Mrs. Cook and daughter take his part, and warm up as they portray his good points. These cats are treasures. Mice used to run riot in the barn, and took too generous toll from hay and meal bag. Now I never see any mice except as Toots or Toddles come to show me one that specially pleases them, and, like well brought up cats, wish to share the pleasure with me.

Even a better use than this is the pleasure they give the dear ones of our home circle. It is good for us to lavish attention and care even on a feline member of the family. And I am sure that loving them insures more love to those of the household more deserving of love. Neither do our cats disturb any one of our neighbors. Indeed, they are fondly petted by all.

I don't feel so about dogs. I wouldn't have one. They do not catch mice, and are only valuable as pets. And are they not too often a nuisance to all the neighbors? No hour of night is sacred against their vociferous yelps. And how few are too well bred to pitch wildly out at the passing carriage or equestrian? Unless we can get real gentlemen dogs—and they *are* rare in California—let us replace every *dog on* the place with a good, handsome cat.

DIVORCE THE LAWN AND TREES AND SHRUBS.

What are so exquisitely graceful as date-palms—the Phœnix canariensis? They are great, living fountains of finest green. A neighbor had one right on the lawn. It had no business there. An open lawn is too beautiful a feature of the landscape to be invaded even by handsomest tree or shrub. Again, the grass seems to have learned this, and proceeds at once, upon occasion, to throttle the very life from any invader. Thus it was that this date-palm was yellow and sickly. Why, my date-palm, almost near enough to shake hands with the other, grew more in three years than did that one in more than double the time. The grass wished the water and the fertility, and took it, and the poor palm could only turn yellow—not green—with envy.

A new neighbor has purchased the place. As the palm was on the edge of the lawn, or to one side, she digged about it and put the too-greedy grass-blades to route. And, presto! the palm doesn't look like the same plant at all. The sickly yellow is replaced with brightest green, and it has grown more in one short year than in several long previous ones. It just laughs now, and were it not that its strong roots had gotten such a hold, I veritably believe it would dance.

Let us all keep trees and shrubs away from the lawns.

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BEEDOM BOILED DOWN

The Bee in Law.

Bees are *feræ naturæ, i. e.*, wild by nature, and classed with such wild animals as have what is called *animus revertendi*, or a usual habit of returning whence they have escaped. During this temporary absence they remain the property of the original owner (2 Kent, Com. 348). The law, as Blackstone says, "extends this possession further than the mere manual occupation; for my tame hawk that is pursuing his quarry in my presence, though he is at liberty to go where he pleases, is nevertheless my property; for he hath *animum revertendi*. So are my pigeons, and bees that are flying at a distance from their home, and likewise the deer that is chased out of my park or forest, and is instantly pursued by the keeper or forester; all which remain still in my possession, and I still preserve my qualified property in them. But if they stray without my knowledge, and do not return in the usual manner, it is then lawful for the stranger to take them" (2 Blackstone, Com. 392).

So, in the civil law, Gaius says: "In respect of such animals as are in the habit of going and returning, as pigeons and bees and deer, which are accustomed to go into the woods and fields and come again, we have this traditional rule: That if they cease to have the intention of returning they also cease to be ours, and become the property of the first taker; now they appear to cease to have the *animus revertendi* when they have discontinued their habit of returning. This theory may be compared to the rights of property in animals at common law only when *animus revertendi* is induced by artificial means, such as taming them or offering them food and shelter, but not to immigrating animals which return from natural causes. The highest authority is that the only ownership in them is *ratione soli*. In consideration of the fact that the character of the forest allows every freeman to be entitled to the honey found within his own woods, affords great countenance to the doctrine that a qualified property may be had in bees in consideration

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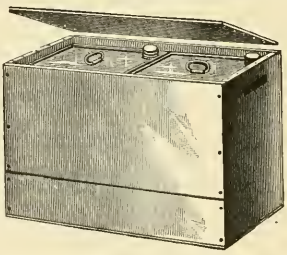

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We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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of the property of the soil whereon they are found."

IDENTITY.

One of the chief difficulties in reclaiming bees is in the almost impossible identification thereof. Many curious cases of doubtful or disputed identity might be cited to illustrate the singular fortuous resemblance between bees, not only in their general appearance, but also in the strain or accidental mark. Positive recognition of peculiar habits and working of bees is too difficult to suffice to prove their identity. Courts judicially recognize photography as a proper means of identification of the thing in dispute; but there is no case or record, so far as we have been able to discover, where a claimant has been able to reclaim his bees by means of photography. Neither can bees be identified or proven by the concurrence of their several characteristics. This proof is too remote, and the question of identity is for the jury. The court can not presume identity of bees.

TRANSPORTATION OF BEES; CONTRACT OF CARRIAGE

The exact character of the contract for the carriage of animals has been the subject of much judicial discussion. The prevailing opinion, however, is that common carriers are also insurers against all losses except those resulting from the acts of God or the public enemy, or from the peculiar nature of the property carried. Though it may be optional with railway companies whether they will accept the full responsibility of transporting bees, yet if they do so without any express restriction, they are liable as common carriers. But they may, for a less hire, agree simply to transport bees, furnish cars, etc.; and if the shipper and owner of the bees agrees to the lower rate, he can not hold them as common carriers. For a given reward they proffer to become his carrier; for a less reward they proffer to furnish the necessary means that the owner of the bees may be his own carrier (Kimbal vs. Ry. Co. 26 Vt., 247). In the case of *Birly v. Deemar*, 54 Fed. R., 718, the United States court held that, when a vessel struck a hidden obstruction and filled with water, and a cabin containing bees floated to the shore, but no effort was made by the master to use care in saving them, the steamboat line was held liable for damages to them, though the vessel was insured and was abandoned to the underwriters as a total loss.

BEES THE SUBJECT OF LARCENY.

Bees in the possession of the owner are the subjects of larceny, says the Indiana Supreme Court in State v. Murphy, 8 Blackf., 498. Further, the court holds that, when bees are in the possession of any person, they are the subject of larceny. Much depends upon what constitutes possession. Generally it is

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regarded that the owner of the soil upon which the bees may be found is the possessor thereof. While the rights to animals *ferae naturae*, as between the owner of the soil and others, have been fairly settled by a considerable series of cases, the relative rights of parties, both of whom acknowledge the superior rights of the owner of the soil, seem never to have been precisely described. But in a recent Rhode Island case (*Herroth v. Coon* 15 R. I., 35), the plaintiff, without permission, placed a hive of bees upon the land of a third person. The defendant, also a trespasser, removed the bees and honey which had collected in the hive. The court found that there was no cause of action, holding that neither plaintiff nor defendant had any title or right to possession to the bees or to the honey. It needs scarcely follow that a trespasser can not maintain, on the basis of mere possession, an action against a later trespasser. There may be some possible doubt in a case of this kind where a person has reduced the bees to possession by collecting the bees in a hive, and left them temporarily on the land or another; and if so it would seem to give him actual physical possession sufficient for an action against one who removed them. But about the honey which the bees had collected while on the soil of a third person, there would be less doubt; but, strange to say, in no case which we have examined does the question seem to have been discussed, much less decided, as to how far the law of animals and bees *ferae naturae* applies to their produce, such as eggs or honey. The reason on which the law about the animals is founded is wholly inapplicable to the honey; but the Rhode Island case tacitly assumes that no distinction is to be drawn. Hence, as a dictum, it would appear that the honey, at least, belonged to the owner of the soil.

Bees are likened unto wild animals belonging to no one so long as they are in their wild state, and property in them is acquired by occupancy, hiving, and reclaiming only, and are not the subject of larceny unless they are in the owner's custody, as in a hive, beehouse, or otherwise confined, and within the control of the possessor or owner.—R. D. FISHER, in Gleanings in Bee-Culture.

GENERAL ITEMS

Fair Honey Crop.

In our locality we have very changeable weather in winter—from extremely cold to warm. We seldom have over one week that bees do not fly, if left on the summer stands. There has always been a question in my mind whether it would be an advantage to winter bees in a cellar under such conditions or not. Our honey crop was fair the latter part of the season. Bee-keepers in this locality do not read bee-papers; one reported foul brood, which, on inquiry, proved to be brood in the supers. C. W. SNYDER.

Garfield Co., Utah, Nov. 20.

Bees Worked on Strawberries.

I was very busy the past summer, in fact, I believe I never worked harder in my life; but it has been a good year for me. I had $500 worth of strawberries, and they were nice, big ones, and fine flavored—should have liked a visit from you in June. My bees did fairly well, but I did not have time to attend to them at the proper time. My best colony filled 10 frames and 55 sections. I doubled up two colonies in 10-frame dovetailed hives, put two supers between, and after reducing them for winter I tried to weigh the hive, but my scales weigh only 60 pounds, and I put a brick on for a weight besides, and as this would not weigh them I think they are all right for winter. My lightest colony weighs 47 pounds, being the only colony my scales will weigh, so I do not think I will have to feed for this winter. Basswood bloomed very

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Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

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Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condensed treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

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GUS. DITTMER, Augusta, Wis.

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profusely this year, but the bees did not look at it. They worked on the strawberries for the first time this year. LEWIS LAMKIN.

Woodbury Co., Iowa, Oct. 28.

The National Association.

I am a bee-keeper, fruit-grower and farmer. I have about 20 colonies of bees, and so far have succeeded, with the help of the "Old Reliable," to sell a few hundred pounds of nice comb honey every year, besides having it on the table at every meal, as my family and I are very fond of it. I have sold all my honey the last few years to the same store-keeper for 12½ cents per pound, and next year's crop is ordered before this year's is sold.

Now for a question: Would the National Bee-Keepers' Association protect and help a member if he were swindled by a commission man to whom he had sold his farm products, such as apples, prunes, etc., the same as when he is swindled out of a shipment of honey? I have had no trouble so far, but I think precaution is better than cure.

A. F. FLUCKIGER.

Lewis Co., Wash., Nov. 17.

[Yes, we think the Association would do all it could for its members to get justice in such a case, though honey-deals are its speciality.—EDITOR.]

Hoping for a Good Wetting.

Although I am well advanced in years, and, unfortunately, an invalid, I manage to attend to my little apiary. With severe losses and extra labor-cost during the past dronth, feeding, and fighting bee-diseases, etc., I am still "in it," and expect to stay with it, with the American Bee Journal as a welcome visitor and guide.

The first rain of the approaching winter season fell here Oct. 27, and again Nov. 9 and 11, and we are all hoping for a good wetting about the coming holidays. I am wintering my bees on the summer stands, but, as a precaution on account of the high altitude and occasional cold snaps, they are packed a little warmer. GUSTAV VOSS.

Riverside Co., Calif., Nov. 16.

A Report—Red Clover.

My bees did fairly well the past season, averaging from 25 to 55 two-pound sections of nice comb honey per colony, spring count. I started the season with 24 colonies, increasing to 36, and two swarms left for the woods. I have sold nearly all my honey in the home market. My bees worked on red clover as much as on the white. Clover is in good condition this fall—we are getting plenty of rain, and things are booming. I would like some of the "wise heads" to tell me if red clover yields nectar every year. My experience says not, here in Iowa; or is it locality?

Page Co., Iowa, Nov. 12. JERRY SCOTT.

Poor Prospect for White Clover.

I do not know what we will do for honey next year, as the white clover has been killed by the dronth. No. 1 honey here is worth 15 cents per pound by the case. I sold all I had at that price. I had no swarms to speak of this year. I hive the swarm on the old stand, and remove the old colony to a new location at once, the swarm catching all the field-bees; by putting the super from the old colony on the new I have it full of honey in a few days, if the flow is good. Bees went into winter quarters in good condition this fall. Although I can not agree with it in everything, I do not see how I could get along without the American Bee Journal. J. M. MOTE.

Cass Co., Mo., Nov. 17.

Favors the Honey-Extractor.

The honey-extractor is an article little used by farmer bee-keepers and many others who keep but a few colonies. Yet a good extractor is one of the very necessary things every bee-keeper should have, even if one has

but a half-dozen colonies. In most apiaries there are some colonies that will produce little or no honey if run for comb exclusively. Some colonies seem determined not to work in sections. If such colonies were at once given plenty of extracting-combs they would commence filling them immediately, and prove much more profitable than if compelled to work in sections. "Locality" may "play its part" in this case, as it does in many other instances. In many rural districts, where but few bees are kept, and where, there are no large producers, extracted honey brings nearly or quite as much as comb—these are the places where the honey-extractor should be doing duty. If our large producers could get nearly as much for extracted as for comb honey, I don't think they would do very much puttering with sections.

Hampshire Co., Mass. A. E. WILLCUTT.

CONVENTION NOTICES.

Vermont—The State Horticultural Society and the Vermont Bee-Keepers' Association, will hold a joint meeting at Vergennes, Dec. 17 and 18, 1901. M. F. CRAM, Sec.
W. Brookfield, Vt.

New York.—There will be a bee-keepers' convention (annual) held in Canandaigua, N. Y., by the Ontario Co., N. Y., Bee-Keepers' Association, Dec 12 and 13, 1901.
Naples, N.Y. FRIEDEMANN GREINER, Sec.

Michigan.—The Michigan State Bee-Keepers' Association will meet in convention at Petoskey, Jan. 1 and 2, 1902. This promises to be the most largely attended meeting of the Association in years. You are invited to attend. Reduced rates on all railroads; tickets can be bought Dec. 30 and Jan. 1, good to return not later than Jan. 4. There will be no set program, but another of our "open congress" meetings. Those who have attended in the past know what that means, and those that don't should come and find out. A novel design for badge has been ordered in honor of "Petoskey."
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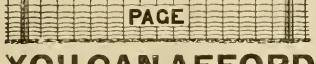

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HONEY AND BEESWAX
MARKET QUOTATIONS.

CHICAGO, Nov. 19.—Honey is selling fairly well at about the prices that have prevailed for the last 2 months, viz: choice grades of white comb honey, 14½@15c; good to No. 1, 14c; and light amber, 13c, with darker grades, 10@12c. Extracted, white, 6½@7c; amber, 5½@5¾c, according to quality, flavor and package. Beeswax good demand at 28c.
R. A. BURNETT & Co.

CINCINNATI, Oct. 25.—The honey market is rather dull on account of the warm weather. Extracted sells only to manufacturers from 5@6c; better grades alfalfa water-white from 6@7c; white clover from 8@9c. Fancy white comb honey sells from 13½@15¢c.
C. H. W. WEBER.

ALBANY, N. Y., Oct. 25.—Honey in good demand now, as this is the most satisfactory time to sell. Grocerymen are stocking up and will buy lines, when late they only buy enough to piece out. Fancy white comb, 15@16c; mixed, 14@15c; buckwheat, 12@13c. Extracted, white, 6½@7½c; mixed, 6@6½c. H. R. WRIGHT.

OMAHA, Oct. 25.—New comb honey is arriving by express in small quantities from Iowa and Colorado, and selling at $3.50 per case in a retail way. California extracted honey is being offered carlots at 4½@4¾c per pound, f.o.b. California shipping-points, but we have not heard of any sales having been made thus far. The production of extracted honey seems to be quite large this year in Colorado, Utah and California. PEYCKE BROS.

NEW YORK, Nov. 8.—Comb honey is in good demand, and while the market is not overstocked, receipts are sufficient to supply the demand. Fancy white sells at 15c, with an occasional sale at 16c for attractive lots; No. 1, white, at 14c; No. 2, at 13c; fancy buckwheat, 11@11½c; No. 1 and 2 at from 10@10½c. Extracted remains quiet at from 6@6½c for white, and 5½@5¾c for amber. Very little demand for dark at 5¼@5½c. Beeswax quiet at from 27@28c. HILDRETH & SEGELKEN.

BOSTON, Nov. 20.—The demand for honey is easing up, somewhat due in part to the holiday season at which time it is much neglected.

Our market at the present time runs 16c for strictly fancy in cartons; No. 1, 14@15c; No. 2, 12½@13c. Extracted, light amber, 7½@8½c; amber, 7c. BLAKE, SCOTT & LEE.

DES MOINES, Oct. 25.—There is very little doing here in new crop of honey. Some small lots of near-by produced comb honey are on the market and selling in a retail way at $3.50 to $3.75 per case. We do not look for much trade in this line before Sept. 1. Our market does not consume a great deal of extracted honey.
PEYCKE BROS. & CHANEY.

DETROIT, Oct. 25.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.
M. H. HUNT & SON.

SAN FRANCISCO, Nov. 13.—White comb, 10@12 cents; amber, 7@9c; dark, 6@7 cents. Extracted, white, 5½@—; light amber, 4½@—; amber, 4@—.

Market is moderately firm at prevailing values, which remain quotable about the same as a week ago. There is considerable doing, both on foreign and local account. A shipment of 1,000 cases extracted went forward the past week per sailing vessel for England. A steamer took 107 cases for Holland.

KANSAS CITY, Oct. 25.—Up to the present time only small lots of new comb honey have been on the market, and these met with ready sale on the basis of 15@16c per pound for fancy white. For next week heavier receipts are expected and quotations are issued at $3.10@3.25 per case for large lots, which would be equal to about 14@14½c; the demand being quite brisk, a firm market is anticipated. Inquiries for extracted are a little more numerous, but large buyers still seem to have their ideas too low. In a small way 5½@6c is quotable.
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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., DECEMBER 12, 1901.

FORTY-FIRST YEAR
No. 50.

WEEKLY

Photo by Collier, Denver.

A WORKER-BEE.—(See page 794.)

THE AMERICAN BEE JOURNAL.

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GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

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The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

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To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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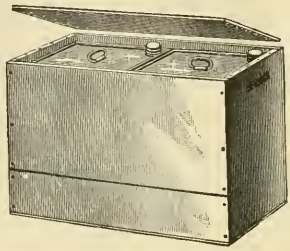

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ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., DECEMBER 12, 1901. No. 50.

Editorial.

The Chicago Convention held its best meeting last week. It was also the most largely attended, the room being crowded at every session—about 100 present. There were bee-keepers from three or four different States. The discussions were taken in shorthand, so we will be able to place before our readers a complete report later on. It will easily be worth a year's subscription to the American Bee Journal. There was only one paper read, all else being interesting questions, which were discussed in a manner equal to the Buffalo convention, which report is now appearing in these columns.

Can We Have Better Gatherers?—Mr. Getaz, in this journal, having expressed the opinion that, although we might increase the size of bees and length of tongue, yet there was little prospect of increasing honey-gathering qualities, F. B. Simpson says in the Bee-Keepers' Review:

"The bee is not a domestic animal, or even domesticated; and we have done little to change her condition of life except to give her a better home; but by most careful selection I think we will be able to continue to increase gradually the average honey-yield until we obtain great uniformity, and, possibly, an average very near our present maximum yield."

Bee-keepers will probably wish that Mr. Simpson may prove the better prophet.

The Directors' Meetings at the Buffalo convention were held during the sessions of the convention, and a Straw in Gleanings in Bee-Culture reads thus upon the subject:

I want to say in language somewhat emphatic, that some better way should be provided than to have Directors' meetings that keep directors out of the sessions of the annual convention of the National. It isn't fair to the directors; and if they are good for anything, it isn't fair to the convention.

Editor Root then follows with this comment:

You are right; but the time of our National conventions is so much taken up by general convention work that it is often difficult to squeeze in a little side-committee work between the sessions. I think the time will have to come when the directors will have to consult by letter, and that the discussion of these questions will have to be done through correspondence. Such a plan is unsatisfactory, in that it gives the chairman of the Board almost exclusive power to direct, if he chooses, the work of the entire Board. (I speak from an experience based on the time I was chairman of the Board; and at that time I saw how easy it was to get indorsed any plan I had.) If he suggests, for instance, that such and such a thing ought to be done, and gives his reasons therefor, in the absence of any counter-argument, his proposed policy is sure to carry, when it may not always be wise.

There is good ground for the objection raised, especially when, at Buffalo, the president happens to be one of the directors. If the interests of the Association seem to demand a meeting of the directors' in person, it might not be a bad plan for them to convene a day or so in advance of the convention, so that all their business might be concluded before the opening session of the convention. This would be asking, perhaps, rather more than is reasonable from men whose time may be of considerable value, and who in any case give their services gratuitously as directors, and it would not be a very great wonder if in some cases, since directors are only human, a director or general manager might be led to say:

"I don't want to appear mean, but attending the convention is rather expensive business at best, and since this extra burden is put on, I can hardly afford to attend this year."

Certainly it would be nothing more than fair that an allowance should be made from the treasury to reimburse at least the expenses of the extra time.

A New White Clover is praised in the foreign bee-journals. It originated in Germany, is called *colossal ladino*, and is said to yield a much larger amount of fodder than the common white clover. Nothing is said of its value as a honey-plant.

The Poison of the Sting is still spoken of as being formic acid, and it is even said sometimes that formic acid from the sting is dropped into the honey in the cell; but Dr. Langer's investigations have shown that the poison is a different matter altogether, having a mere trace of formic acid in it.

Carbolineum for Hive-Paint.—This new acquaintance comes from Germany, where it is highly spoken of. An editorial in Gleanings in Bee-Culture gives considerable information regarding it. Instead of forming a coating on the surface like other paints, carbolineum strikes clear through the wood, so that when one side of a $\frac{7}{8}$-inch board is painted with it a splinter from the opposite side will taste of the material 24 hours later. It costs only half as much as good lead paint, and it is said that railroad ties saturated with it last three times as long as when not so treated.

Mr. O. O. Poppleton thinks it objectionable for hives because of the strong odor of creosote, and because of its almost black color, yet he has used it for some years to preserve his hive-bottoms. The dark color would make little difference where hives are kept in the shade, although objectionable where they stand in the hot sun. Even if it be not desirable to use it for anything but hive-bottoms, it may be quite an acquisition for that purpose, for it is the bottom of a hive that rots first, and in some places the bottom is ruined by ants, which would be kept at bay by the carbolineum.

Those "National" Conventions.—A Straw in Gleanings in Bee-Culture reads as follows:

"It might not be a bad idea for each annual convention to nominate three candidates for general manager, and nine candidates to succeed the three directors whose terms expire with the following December." That's a suggestion of Editor York as to the National. It's worth considering for the future.

The following paragraph contains Editor Root's opinion on this subject:

I do not believe it would be wise to bring about conditions or a precedent whereby the office of general manager, at least, should be changed as often as once in two or three years. When we get a good man, as in the case of our present general manager, we ought to hang on to him. One who has been in the harness, and knows how to pull, should not be made to give place to one who may be merely popular in the eyes of bee-keepers or members of the Association, and yet possibly be entirely unfitted for the exacting and important duties of the office. But I do believe Bro. York's suggestion is all right for the Board of Directors. Some of us who have been so long on that Board could just as well get out, and thus place the responsibility for the success of the organization on other men whose help we need.

In the suggestion made in this journal there was no contemplation of bringing about any condition or precedent looking toward any change in the office of general manager. As the matter now stands, the manager is elected or re-elected every year. His being nominated in advance at the annual meeting would not be likely to make any change. So long as the man already in office was regarded as the best man for the place, he would be sure of nomination at the annual meeting as he would be sure of election if there had been no previous nomination. In general, there would be no need of any nomination. But there is need of nominations for directors, and as the election of manager occurs at the same time as the election of directors, the nominations should be made at the same time. There will, however, come times when it may be necessary to elect a new manager, either because the old one dies or will not longer serve, or because it is thought some other

man might fill the office more satisfactorily. In such case will easily be seen the advantage of a previous nomination; and if there should be anything like unanimity in the nomination at the annual meeting, it would be a great help toward deciding who was the right man to vote for.

In this connection it may be said that Editor Root has requested that his name and that of his father should be dropped at the expiration of their respective terms of office. Certainly, it does not seem necessary to have two directors from the same town, although all would not agree that the younger Root should be dropped just yet.

Wm. Rohrig, of Arizona, and Editor H. E. Hill are named in Gleanings in Bee-Culture as proper persons to be elected as directors. Mr. Hill, however, asks that his name should not be used, giving reasons therefor.

Breeding from the Best has been the motto with perhaps the most of breeders, but, as already mentioned, F. B. Simpson would prefer, for improvement, to take a queen of stock that showed not such a very great yield above the average, but rather of stock that showed a *uniform* increase, even if this increase should not be very great. To this Mr. Adrian Getaz replies in the same paper (the Bee-Keepers' Review) as follows:

Mr. Simpson thinks that since an exceptionally good queen is necessarily more or less of a freak, and therefore liable to give an irregular progeny, it would be well not to use her for breeding.

It depends upon what the queens are reared for. If it is for sale, it might be best not to take any chances, as a very few worthless queens are enough to ruin a breeder's reputation. But if the object is to improve the stock, I should say use her by any means, and select the best of her progeny until the strain is fixed.

It is a matter of fact that all of our best varieties of vegetables and flowers are freaks that were selected, or sometimes accidentally found, and perpetuated by close breeding. Many of our fancy breeds of dogs, chickens and pigeons originated also in that way. The silk-wool merinos are descendants of a ram that was a freak; and now the race is well established.

The Ontario Convention was held last week at Woodstock. We are informed that it was a good and profitable meeting. We expect to publish a full report of the proceedings. Our Canadian readers will be specially interested in this, though it will be of great interest to all, as Ontario has some of the best bee-keepers in the world. They attend conventions, too, and thus "let their light shine" for others.

The New York State Meetings of bee-keepers, to be held this month, should be well attended. Pres. Marks announces them on page 799. We trust that our readers will do all they can to make them a success, and thus prevent their discontinuance.

Sweet Clover in the Rockies, according to W. P. Collins in the Rocky Mountain Bee Journal, is to play a very important part in the future, covering all the slopes that are now barren, and affording floods of honey.

The Buffalo Convention.

Report of the Proceedings of the Thirty-Second Annual Convention of the National Bee-Keepers' Association, held at Buffalo, New York, Sept. 10, 11 and 12, 1901.

(Continued from page 775.)

LENGTH OF TONGUES OF BEES.

Mr. Rankin—I had hardly expected to talk to you this afternoon, and what I have to say will be entirely extemporaneous. It has been my pleasure to be connected with the Michigan Experimental Station for about five years and during that time I have been doing something in the investigation of the length of the bees' tongues. The idea came to me at one time when I had a single colony that gathered a half more honey than any other in the yard. I began making investigations with crude machines to measure the tongues. I have been working right along on that line. I have run across a difficulty in the mating of queens—getting the queens mated to the desirable drones is the difficulty. Personally, I don't know how it will be unravelled, but I am confident it will be done some time or other. I have observed right straight along that a colony which gathered an exceptional amount of honey was one that had correspondingly long tongues, and the tongue for one bee in the colony is the rating for the tongues of every bee in that colony; that is, the tongues are uniform. You don't get one bee in a colony with a tongue 7 millimeters or 22-100 of an inch long, and the rest of them run away down low. Now, a young bee hasn't as long a tongue as a full-grown bee, but if you gather the bees which you are measuring as nearly the same age as possible, you will have a uniform length of tongue, and I think this is one of the problems which bee-keeping will solve in the future, that is, breeding bees with a longer tongue. It is true we can produce a strain of bees just as superior to that we have now as the strain of live stock we have now is superior to that our ancestors began with. Do not let us carry this thing too far and make a hobby of it and run it into the ground, but let us keep our eyes open, and if we have one colony of bees in the yard that is giving us exceptional returns, let us rear some queens from that colony and put those queens in from the stock that is doing the best work. I have found out by talking with bee-keepers all over Michigan, that bee-keepers rear their queens from wherever it happens when the colony swarms, and no matter if that be a poor or good colony, that queen is allowed to go right on and lay eggs and be the mother of that colony. If you have an exceptional strain, produce that strain in your other colonies; bring them all up to that standard, and that is the practical side of bee-keeping to-day. In relation to in-breeding, I don't think we need be very much afraid of this at present. I don't know of a single scheme which has been brought up that a queen will be mated to drones from the same stock. If in-breeding were carried on to an extent that would degenerate live stock, it would probably degenerate the bee. I don't think that from any of our systems—anything that we can get is not systematic enough to bring this crossing to such a small focus that it will be possible for us to inbreed enough to hurt. I do think the bee-keeper of to-day can improve his stock by selecting his queens and his drones. If you have four or five successful colonies, by all means breed from them.

FOUL BROOD IN MICHIGAN.

Mr. Rankin—As far as foul brood in Michigan is concerned, we had some of it up there. I think my record for any one day this summer was to condemn 118 colonies, and that in two yards. Those people are all going to treat theirs. I have so far visited perhaps over 4,000 colonies. I have been on the road since July 1, and came directly from the field here, and am going back to the field to-night.

Dr. Mason—Are you in accord with Mr McEvoy when he says that a hive that has foul brood in it, does not need disinfecting?

Mr. Rankin—The stand I take is that if the hive is perfectly free from any drops of honey, it is probable that the disease will not be produced by putting a clean swarm of bees into it; but on the other hand, if there is any honey around the hive the disease will in all probability be reproduced. But that is not the point. We have a lot of ignorant people in our State, and when you talk to a farmer about a bacterial disease and tell him what the characteristics of a germ are; when you tell him that you can put 25,000 of them on the head of a pin, they will just stand and look at you. If you take the ordinary bee-keeper and tell him that there is no use of him disinfecting his hive, it has been my experience that he will go right out and do something which there is no use in, and which renders his treatment a total failure. The principal reason why I place the stress on disinfecting hives, and in washing your hands in an antiseptic after examining a diseased colony, is, to impress upon those bee-keepers more forcibly the virulency of the germs, and the precautions they must take. I use bi-chloride of mercury. It doesn't smell so bad as carbolic acid.

Dr. Mason—What do you think of salicylic acid and borax?

Mr. Rankin—I don't like it. The salicylic acid is all right if you have it in a strong enough solution. I think it well to convince a man that one

thing is right and have him stick to that.

Mr. Sleeper—How long is a bee's tongue, ordinarily?

Mr. Rankin—They range all the way from 14-100 to 21-100 of an inch.

Mr. Sleeper—How long would a tongue have to be to be a long-tongued bee?

Mr. Rankin—Anything over 18-100 is above the average. 18-100 is about what you will find in the best-bred bees around through the States.

Mr. Sleeper—Can bees with tongues 18-100 of an inch long gather honey from red clover?

Mr. Rankin—They can when the corolla-tube fills with honey up to that point. The red corolla-tube is about 35-100 to 50-100 of an inch long.

Mr. Abbott—The actual fact is that this year the corolla-tube of red clover is not more than half as long as it usually is, owing to the dry weather, and the bees are all working on it now.

Mr. Betsinger—How near must the bee come to the honey-tube in order to draw all the honey out of the tube?

Mr. Rankin—I don't think a bee can draw honey any further than it can reach.

Mr. Betsinger—Then if the corolla-tube is so full of honey that the bee can insert its tongue half way down into the honey, it can only draw as far as its tongue is inserted, and it will stop drawing from that point. I think you will find from observation that if the bee can touch the honey at all, it draws out every mite of honey that is in the corolla-tube.

Mr. Rankin—I have done that same thing, and when you take one corolla-tube out of a flower and hold it up in your fingers and let a bee draw honey from it, it will empty the tube, but will it do that when it is in a head and pressed right in that? Has the bee power enough to collapse that honey-tube, which it must do? The capillary attraction holds the nectar right in that tube.

Mr. Betsinger—Isn't it a fact that the bee takes a tube alone and handles it separate from the rest?

Mr. Rankin—But that tube is in the head and fastened right in there. After they drop down when they are ripe, the bee has no more to do with them. They will draw the nectar out clear from the bottom, but I don't think they will do it when the corolla-tube is in the head.

Pres. Root—I have examined a good many clover-heads when the bees had gone all over them. I have then drawn out the corolla-tubes and found considerable honey at the bottom of them. I concluded from that the bees needed longer heads.

Mr. Sleeper—In relation to foul-brood germs, I understood Mr. Rankin to say that 25,000 could not be seen with the naked eye. You have looked through a microscope at these germs many times?

Mr. Rankin—Yes, sir.

Mr. Sleeper—Have you found them anywhere else except in honey?

Mr. Rankin—Yes, sir; I have found them in the tissues of the larvæ that were diseased, and, of course, you know that when you take any material whatever, no matter what it is, and put it under a high enough power microscope so that you will detect the germs, you will get anywhere from ten to 500,000 species of germs.

Mr. Sleeper—They exist independent of honey?

Mr. Rankin—They exist in the bodies of the larvæ which are diseased.

Mr. Sleeper—Don't they exist anywhere else except in the larvæ and the honey?

Mr. Rankin—I don't think there is anything in the hive aside from the honey and the tissues of the larvæ from which the germ will get sustenance. This germ will not grow in acids or anything else.

Mr. Benton—Why confine it to the larvæ alone? Why not say in the pupæ and the adult bee?

Mr. Rankin—Do you know that is so? I know that this is so in the larvæ. I don't think that you will find any germs of foul brood in the adult bee outside of the honey-sac. I have looked for it and failed to find it.

W. L. Coggshall—How many different forms of germs do you find—is there more than one in foul brood?

Mr. Rankin—No; foul brood is caused by one germ—bacillus alvei—which is a specific germ, twice as wide as it is long. I never have examined the germ of black brood under a microscope.

RESOLUTIONS ADOPTED.

Mr. Abbott then introduced the following resolutions:

"*Resolved*, That the thanks of this Association be extended to the Mayor; to the Buffalo Society of Natural Sciences for the use of this hall and committee rooms; and to Dr. Smith, President of this society, for his cordial address of welcome; and to the janitor for his careful attention to our wants; to the local bee-keepers of Buffalo for the beautiful badges they have furnished us, and for the use of a piano."

"*Resolved*, That we extend to the Texas Bee-Keepers' Association our thanks for the interest they have shown in the prosperity of the National Association by sending two delegates to attend this meeting.

The resolutions were adopted.

BOILING FOUL-BROODY HONEY.

"I have read of boiling honey from foul-broody combs and feeding back. How much water should be added, and how long should it be boiled?"

Mr. McEvoy—I don't like to answer that question, from the fact that I never advised the feeding—the public is too careless. They will give the disease through it. They merely heat it, and they might just as well give it raw; but where I have added nearly a third water, and sometimes nearly half, and brought it to a sharp, bubbling boil, I never noticed any bad effects from it.

Mr. Rankin—If you could be certain that the honey would be boiled it might be all right. Prof. Harrison, of Guelph, Ont., has within the past year published a bulletin on foul brood. He has demonstrated to us that you can boil the spores of foul brood for something like two hours and still produce a growth. The question is here, Do we have any spores in the honey? I have never seen any foul-broody honey fed back that did not produce the disease, but I have not had the experience that Mr. McEvoy has had. I have been in this business only a short time, and I havn't tested it thoroughly, but I do not think it is safe to recommend the feeding back of foul-broody honey in any instance whatever.

Mr. McEvoy—I told a farmer, who would insist on feeding back foul-broody honey instead of buying sugar—I told him how to do it. I went back to examine that apiary and every one of the colonies had foul brood. I said, "Did you boil the honey?" He replied "Yes, it was boiled." "Who boiled it?" "The girls." I said to the girl, "Did you boil it?" She said, "Yes, it was that hot that I could hardly put my finger in it."

Mr. Sleeper—This gentleman speaks of spores. Now I understand that they are seeds, are they not? I would like to know whether these are animal, or vegetable.

Mr. Rankin—They are the same as other germs. Some authorities say they are vegetable and some animal.

Mr. Benton—I think that they are vegetable and not animal.

Dr. Mason—Is there anything in the foul-brood line in honey that will not be killed by being boiled?

Mr. Rankin—We have the statement of Prof. Harrison that the spores may be boiled, I think 2½ hours, before they are killed.

Mr. McEvoy—I was going to say if they would add about half water and bring it to a sharp, bubbling boil it would kill them.

Dr. Mason—Science is a fine thing, but good, practical experience is a good thing. I had at one time about 80 colonies with foul brood, and the honey when extracted was so thick that when you would start to pour it out it would go in a chunk; and I boiled that honey and fed it back to the bees and didn't spread any foul brood. I don't think there is any living thing in honey that boiling won't kill.

Mr. Sleeper—How long do you boil it?

Dr. Mason—I make sure it is *all* boiled. I boiled it in a wash-boiler and I dipped up boiling honey and poured it on the sides so as to rinse down the unboiled honey, and made *sure* that it was all boiled; but you want to *know* it is all boiled, every particle of it.

Mr. Benton—All of these bacilli have their certain temperatures to which they have to be heated to be killed. Now the whole thing is this, that the absolute temperature for killing these is not known. All it needs is to determine the lowest temperature and use a thermometer and be sure that the whole mass reaches that temperature. Water boils at 212 degrees, and this mass being much thicker was probably raised to 230 degrees before it boiled, and that is about the temperature that would kill it. Mr. Cheshire asserted that the bacilli did not exist in great numbers in the honey, except as an accidental impurity, and that they would not thrive or live there.

R. B. Rians—My experience agrees with that of Dr. Mason. I have taken foul-broody honey and reduced it very little with water and boiled it until it would almost boil over, and fed it back to my bees without any bad results.

Mr. McEvoy—You take an old, dry comb that has had foul brood in it, that has stood for ten years, and it will give foul brood.

BREEDING FOR DESIRABLE TRAITS.

"In breeding for desirable traits,

which is the more important, the drone or the queen?"

Mr. Hutchinson—I think one would be as important as the other.

Mr. Callbreath—My idea is that there is a difference in the vitality of drones and queens, the same as there is in human beings, the one that has the greater vitality will affect the progeny the most.

Mr. Benton—I should consider the queen more important.

"What is the best way to prepare barrels for extracted honey?

Dr. Mason—Drive the hoops tight.

BEE-CULTURE IN TEXAS.

Mr. Davidson—Our Secretary was to furnish us with a report of the number of colonies and bee-keepers in Texas, but he hadn't furnished it before I left home. Our State convention instructed our secretary to furnish us with a report of that convention, but I didn't get it in time.

Dr. Masou—Make it out and send it to me. (I have not received it yet—Secretary.)

Mr. Davidson—I think there are something over 2000 colonies of bees in the State of Texas. I don't remember the number of bee-keepers that own them. We have a good country for bees. We have no disease among our bees—never have had. I think there has been a bad impression made in the North in regard to Texas honey. The northern portion of the State produces honey gathered from wild flowers and woods, and sometimes the honey sours and is not of good flavor. Our honey is very white. I saw a good deal of honey in the exhibit here similar to it. I would like to thank the bee-keepers of the Northern States for their kindness to the Texas representatives, and also to the Canadian bee-keepers. We wish to extend an invitation to the National Bee-Keepers' convention, to have their meeting in San Antonio, Tex., next year, or any year after that.

Mr. West—In regard to Texas, you say you have no foul brood or bee-diseases there. Do you have any enemies to your bees that cause destruction? You haven't the winter that we have in the North. Do you have anything that you have to fight?

Mr. Davidson—No, sir. We have no enemies to the bees there that I have ever found. I have been keeping bees there for 15 years, and I have never seen any foul brood there. No winter loss at all. Our bees work nearly the whole winter. The moth does not bother bees in the South where the man understands his business and keeps his bees in the right condition.

Mr. Longnecker—Do you ever feed in the spring to stimulate brood-rearing?

Mr. Davidson—No, sir; we have an early, light honey-flow that commences about the middle of February. I never fed a pound of anything to our bees yet at any time of the year. The source of our main honey-flow is the mesquite and a shrub. We have the surest country for honey, I think, anywhere in the world. If it rains we get some honey, and if it is dry we get a great deal more. The dryer it gets the more honey we get.

Mr. Baldridge—Do you have any loss from heat melting the combs?

Mr. Davidson—No, sir; I have never suffered any loss from that cause. I keep my bees under shade. I hear some complain, but generally it is where they leave the hives exposed to the sun. I have seen plenty of it where it was not properly attended to.

Mr. Toepperwein—You can hardly expect to hear much from bee-keepers away down in Texas, like Mr. Davidson and myself. We have come here especially to see what you people up here do, and see what kinds of honey you produce and what you do with it. We intended to bring some good-sized samples to let you see what we are doing there, and we produce some very nice extracted honey, which we want to dispose of. There is a very poor market for honey in Texas, and if I can get any information as to how to dispose of our honey I would like to learn of it here. I have brought a few samples of honey just to show what we have. Mesquite honey is a great thing in Texas. Whenever we have a drouth we get our honey just the same; and in spring, if it rains, there is the cat-claw that produces honey. There is a white bush which blossoms after every rain. If it is dry there well be the mesquite, which is safe every year, so it doesn't make any difference in our portion of Texas whether it rains or not, we get our honey, and if any people from the North would like to have any information about bee-keeping in Texas I would be glad to give it to them. I have seen the honey candy within two or three days after being extracted. We have a method now of putting the honey in hot and sealing it in nice glass jars with a tin cap, and we think that will keep it from granulating.

Mr. McEvoy—What is your average yield per colony?

Mr. Toepperwein—A bee-keeper who understands his business can get all the way from 60 to 200 pounds per colony. That is, if we have a right dry season. I don't think it is necessary to have any less than 60 pounds.

Pres. Root—Do you have any seasons of complete failure?

Mr. Toepperwein—It has not proven to be, but it could be if it would rain just at the time of the mesquite blossom.

Pres. Root—Do you allow your bees to swarm where you run for extracted honey?

Mr. Toepperwein—Yes, sir; I let my bees swarm, and get a crop from the old colony and from the swarm, too.

Mr. Longnecker—I think you will find one of the points against buying Texas honey in the North, it is candied too much. Northern consumers won't buy candied honey.

Mr. Toepperwein—What we are trying to do up here is to make connection with some concern, and have stations where bee-keepers can take their honey and ship it in carloads, and the agent comes around and buys the honey at a reasonable price and ships it up here in car-loads.

W. H. Heim—I would like to ask Mr. Toepperwein whether they produce very much comb honey there, and what the average is per colony.

Mr. Toepperwein—The bee-keepers down there are getting to produce this chunk honey now. It is cut out of the frames and packed in cans with eight-inch screw caps. The people down there are getting to do that because they say there is no market for extracted honey. I wouldn't produce any but extracted myself. Another thing, if they produce comb honey, they ought to produce it in sections.

Dr. Mason—If you can dispose of chunk honey, why don't you produce it?

Mr. Toepperwein—Now, chunk honey, you have to put in foundation. There is great expense. The bees will have to build that every time.

(Continued next week.)

Other Conventions

The Colorado State Bee-Keepers' Convention.

BY D. W. WORKING, SEC.

It was a big thing—this 22d annual meeting of ours—and all the wide-awake bee-keepers in the country ought to hear about it. Will the American Bee Journal let me tell them?

The introduction must be brief; so that the really important matters can be given appropriate mention.

We met, as was advertised, in Representative Hall of Colorado's beautiful Capitol building, and had every convenience that the most particular bee-keeper could desire. The program was carried out with very few changes. Editor Root was not able to be with us; but Editor Hutchinson occupied the first evening with an instructive and entertaining talk illustrated with magic-lantern views. The papers and discussions were of great value, and will be furnished to the readers of the American Bee Journal, the discussions in condensed form.

The address of Pres. Aikin attracted marked attention, and the paper on long-tongued bees by Professor Gillette of our State Agricultural College, was an exceptionally instructive study of this seductive subject. I suspect it will elicit a good many "explanations".

The exhibit of bees and bee-products was an experiment, but so successful that it will be repeated under the management of a competent committee An interesting outcome was the award of the first premium for the "best ten sections of white honey" to an exhibit of last year's product; and this in spite of the fact that the winner had new honey entered for the same premium, and the additional fact that there were several other contestants for the prize. The judges—one of whom was Editor Hutchinson—did not suspect that the premium honey was old. Moreover, they did not seem the least bit annoyed when told what had happened.

The election resulted in the choice of a new President, J. U. Harris, of Grand Junction; and a new Vice-President, M. A. Gill. The Secretary and Treasurer were reelected. Mr. Harris was advanced from the vice-presidency, and Mr. Gill comes up from the ranks.

The Association at the present time has the largest membership in its history, and there are good reasons for believing that it will not decrease in numbers and usefulness during the coming year. Mr. Aiken, the retiring president, after eight or nine years of faithful service, received the unaminous thanks of the Association for his successful labors. As

a private (though not a common) member, he will continue to have a large influence among the bee-keepers of the State.

It should be mentioned that, during the last afternoon, the Governor was hustled away from an important meeting of the State Land Board, and brought up stairs to see the largest assembly of bee-keepers he had ever faced. He made a pleasant off-hand speech, promising to be of use whenever it should be possible. He will have a chance next year.

The Association did not forget to be thankful (and to express its thanks) to all who had helped to make the three-day meeting successful and in every way interesting and profitable.

This brief report makes no pretense of being complete. Later on—if the editor will permit—items of information about the meeting may be sandwiched in beween formal papers and discussions.

It is not to be forgoten that the meeting was a big thing.

Arapahoe Co., Colo.

Report of the Utah Bee-Keepers' Convention.

The last convention of the Utah Bee-Keepers' Association was held in Salt Lake City, Oct. 5. The meeting was called to order by Pres. Lovesy. There was a good attendance, and an interesting session was held.

County vice-president, Geo. Howe, of Utah County, by request spoke on the different sizes and kinds of hives. He said that he used the Langstroth and American hives, and that the bees must be kept dry, as it was the dampness that killed them in the winter.

Wm. Blake said that he was interested in both bees and fruit, and he thought those two industries should go together; that a more paternal feeling should be cultivated, as they were each benefited by the other.

J. A. Smith, of Wasatch County, writes: "We have sold our crop of 358 cases of comb honey for $2.65 per case. The honey season was never better than the past summer. We had a late spring, and the bees were weak, and in some instances the mortality ran as high as 75 percent."

Vice-President Rees, of Weber County, sent regrets at not being able to be present. He also said that the first part of the season was bad, some of the bees being in an almost starving condition, except where they were fed until the second crop of alfalfa came into bloom. After that time they did very well. He said he had taken 70,000 pounds of extracted honey from 1,000 colonies; the honey-flow, although not heavy, held on late, which will help the bees to get in good shape for winter, causing them to rear lots of late brood, which will furnish bright young bees—the very thing for good wintering.

The President's Address.

The bee-industry in our State in this the beginning of the new century, although we have received some fairly good reports, on the whole they cannot be considered as good as might be desired; while in some of the southern counties the honey-flow has been unusually good, as also in some localities in the northern part of the State. The great honey-producing belt in the central part of the State, which last year and some other seasons produced, in some instances, an average of about 300 pounds per colony, this season, over nearly the entire district, yielded from about half a crop to a total failure. While there may be other reasons for this falling off, the principal ones are drouth, a lack of irrigation-water, and grasshoppers; and in addition to this, in Salt Lake County, at least, is the smelter smoke; while in a few instances, in the best honey localities, the bee-keeper gets enough from his bees to make it profitable, the bees always die off through the fall from the effects of smoke settling on the bloom. We have been informed that one or more of the companies are going to put in smoke-consumers this winter. We hope all will soon follow their example, as this question is getting to be a serious one to dairymen and farmers as well as bee-keepers.

But aside from the smoke, the grasshopper plague has been the principal cause of the destruction of the honey-flow and other crops in several counties. We wish to call the attention of our bee-keepers, farmers and fruit-growers to this matter. It goes without saying that it should be plain to every thinking mind that some energetic effort is necessary to suppress this pest. In some portions of Salt Lake and other counties, the past season, the grasshoppers destroyed nearly everything that grew—potato, alfalfa and other fields were eaten off bare to the ground. In the latter part of July I visited several orchards, and there was not a sign of a leaf left in them. Some of those trees will die, as the new growth of wood, together with the bark and buds of the small branches, are eaten off; and the alfalfa will die where it is eaten down into the crown of the plant.

Now for remedies that can be made effective if carried out intelligently: Our sacred friends, the gulls, came and destroyed billions of them the latter part of July, but as they do not come until the breeding season, it is too late to save the crops. Then the next best remedy which can be used when desired, are turkeys or chickens. While either can be made effective, the turkeys are best if properly herded. Make a sufficient number of strong, portable coops that can be drawn where desired, and that can be closed so as to protect the birds at night. If the scheme is properly carried out, it will not only settle the grasshopper pest, but it will prove a profitable business in raising the birds for the market.

There have been some experiments of late along the line of trying to protect our bee-keepers and fruit-growers by destroying the moth and other destructive insects, the object being to destroy the moth and eggs at the same time, without the use of a poisonous spray, which has not been, and will never be, a success in reducing the number of those destructive insects.

While it will be seen, from some of the reports sent in, this dearth of honey has been by no means universal over the state, if we can succeed along the lines indicated, we believe the old-time prosperity will again be recorded generally. It is desirable, also, in that it would be beneficial to all concerned to have Colorado and Utah bee-keepers in closer touch with the disposal of their products.

E. S. Lovesy.

Another method of catching grasshoppers is, in cutting lucerne, to leave a swath every two rods, on which the "hoppers" will congregate. Make a sack, out of ordinary sheeting, about six or seven feet long and three to four feet wide, and attach the mouth of it to a wooden frame of the same size to keep it open. Then two persons on horseback drag the sack up and down the swath where the grasshoppers are—they jump into the sack and are caught. This sack can be used wherever it can be dragged around. It should be used only at night or early morning, as the hoppers then are not so easily frightened—they seem more stupid.

E. Johnson thought it would be a good idea to co-operate in buying supplies and in marketing bee-products. He also offered a resolution which carried, that the officers of the association make an effort to form a closer fraternal union with Colorado bee-keepers.

Mr. Cornwall said he had lost his bees for several years on account of the smelter smoke. He purchased more, but they always died in the fall. He said but for the smoke his bees would otherwise be healthy.

J. Ferry said that nearly all the bees in that locality were dead; the smelters were about five miles distant, but he had no doubt that the smoke from them killed the bees.

Mr Falkman, of Weber County, said that, taken as a whole, the bee-industry had not proven a success the past season.

J. H. Bartlett, of Uintah County, said the bees in that locality had produced from a third to half a crop. They had no foul brood or other disease.

Mr. Chritchlow said he had moved his bees to Idaho. He had taken 400 cases of honey from 150 colonies.

Mr. Wilding thought the Kidder hive a good one to winter bees in. He thought the best way to get rid of foul brood was to destroy hives and everything affected by the disease.

FOUL BROOD CURE—NEW METHOD.

Take the infected colony in the morning, after the bees have begun flying freely. Catch and cage the queen and place her on top of the brood-frames, where one can get her readily without disturbing the colony. Then in the afternoon, about 3 o'clock, get a clean hive filled with foundation. Leave space in the center for one frame; now take a frame of clean, healthy brood, shake most of the bees off, and take the queen from under the cover where she was caged in the morning. Liberate her on the frame of brood, place it in the space reserved for it in the clean hive. Now, quickly and quietly remove the infected hive to one side, and place the clean hive on the old stand. The field-workers will now enter the new hive and go right on working as usual. Now stop up the entrance of the old hive and put it on top of the clean one, with the back of the infected hive to the front. Now bore a hole in the back of the foul hive. Make a runway out of a piece of shingle; nail a strip on each side and on top, making a bee-space; nail this on front of the hive, and be sure to cover the hole. This will make a bee-space so they can come down from the upper story and go out. Leave the hive on top for about three weeks; by this time all brood will be hatched out, and will be below. The hive

can now be taken away and destroyed. This must be done only through a heavy flow.

INSPECTOR EVANS.

Another cure for foul brood is as follows: Take equal parts of carbolic and salicylic acids, saturate a flannel cloth and put it between two thin boards, so that the bees can not touch the flannel or acid. Put this in the place of center frame of the hive, removing the frame.

Mr. Gardner gave an interesting sketch of a bee-house 9x28 feet and 7 feet high, holding over 100 colonies. He manipulates his bees in the house, keeping them in it winter and summer. He has three tiers of hives on each side of the house, running north and south. The house is built with tight board rustic. The hives are pushed up against the boards of the house, with the entrances opposite corresponding holes cut in the boards. The walls are painted several colors, in perpendicular stripes, after the style of a barber pole, each stripe being the width of a hive. In this way the bees have no trouble locating their hives. He says the house has proven a success with him, the bees being easy to handle, with much less work, and his loss in winter, so far, has not exceeded five per cent.

The honey crop in Uintah County was short, on account of a small, white, flying insect, the insect being very numerous in all nectar-producing bloom. The pest made its first appearance July 1, and remained until the bloom was killed by frost.

Mr. Neilson gave a very interesting description of a moth-trap he has invented for the destruction of the codling moth and other insect pests. He stated that by this method the moth and its eggs can be caught and destroyed at the same time, which makes it much more effective than spraying. He said the old-time poison spray had never been a success, and never could be, because of the small percentage of larvæ caught—often not more than two per cent—and the harm done often exceeded the benefits derived. He was sustained in this view by several practical fruit growers present, some of whom said they had given up poison spraying as an expensive luxury, and not worth following.

Contributed Articles.

Long-Tongued Honey-Bees.

Read at the recent Colorado Bee-Keepers' Convention at Denver.

BY PROF. C. P. GILLETTE,
of the Colorado Agricultural College, at Fort Collins.

Who first suggested breeding for long-tongued honey-bees, I do not know. It is said that a Mr. Wankler, of Germany, invented an instrument as early as 1882, for the purpose of measuring the length of bees' tongues. So far as I have been able to learn, the first person to bring this matter prominently before the bee-keepers of this country was Mr. J. M. Rankin, of the Michigan Experiment Station, at present foul-brood inspector for that State. Mr. Rankin attempted to breed up a long-tongued strain of bees and believed that his efforts were crowned with some measure of success.

During the past year, or eighteen months, the subject of "long-tongued" or "red-clover" bees has been greatly agitated in the bee-journals of the country and has come to be a veritable fad. A person having queens to sell feels that he is greatly behind the times—a sort of back number in this age of progress—unless he can guarantee his queens to produce a long-tongued variety of worker-bees. The result is, he so advertises them without knowing the real facts in the case, but with the belief that his bees have tongues as long as any.

To a student of biology, particularly if he be an entomologist, the idea of a long-tongued race of honey-bees coming quickly into existence, seems extremely improbable. There is no more important organ in the anatomy of the honey-bee than its tongue for the maintenance of life, and nature has been breeding this tongue to a standard length for so long a time that it is not likely to vary rapidly under artificial selection where parentage can be controlled upon one side only. For these reasons the writer took no interest in the matter when it was first agitated. Finally, so many bee-keepers of known honesty and sincerity of purpose began to advocate breeding for long-tongued bees, and to advertise that they had such bees for sale, that it seemed necessary that some one, having the facilities and the necessary training, should make a careful study of the subject and report results. The writer began to collect bees for the purpose of testing tongue-length early last summer. It was not possible to spare a large amount of time for this purpose, but I feel warranted in making this preliminary report, and am expecting to publish a fuller one after continuing the work farther.

WHAT IS MEANT BY TONGUE-LENGTH?

The so-called "tongue" of the honey-bee is a very highly specialized organ made up of many parts. The longest single piece is the ligula, which is very flexible, yellowish in color, and thickly set with short hairs. Into this the nectar of the flower is first taken. It is supported by a black, rigid, chitinous piece called the mentum, which is about one-third as long as the lingula. At the base of the mentum is a still shorter piece which is also hard and rigid—the sub-mentum—and this is attached to the underside of the head by two slender, stiff rods, jointed at the middle and known as the cardos or hinges. These medium parts with the attached portions (the two sets of palpi and the maxillæ) make up the parts of the tongue. The important question which presents itself here is, What shall we base our measurements upon in giving tongue length?

In breeding for long-tongued bees what one would want to know is the distance the tongue can be made to reach beyond the jaws or mandibles—"the tongue-reach," as it has been called. This is the measure which has been given by Mr. Root and most others, so far as I know, who have reported lengths of bees' tongues.

Glossometers also have been constructed to measure this tongue-reach in the living bee. This seems to me like endeavoring to determine how far a man can reach above his head. If we could catch him putting forth his utmost efforts to reach in that direction, and could get him to hold still long enough, we could determine the distance with considerable accuracy. On the other hand, when we have to determine this point from measurements of the dead or chloroformed body we can not obtain very accurate results. We would not know how hard to pull upon the arm just to draw it into the position of the highest reach; and if we should not pull upon it, it would, from the elasticity of the parts, draw down much too far. The conditions are worse in case of the elastic and many-jointed tongue of a bee. It would be true, as a rule, that the longer the arm, the farther a person could reach above his head, and it would be much more certainly true that the longer the tongue of a bee, the farther can it reach beyond its mandibles, as the ratios between parts in a bee are far more consant than in man. For this reason, and for the further reason that it is more easy to get an accurate measurement of the parts of the tongue when it is dissected completely out and placed upon a glass slide under a compound microscope, I have considered the entire tongue-length the best measurement upon which to base conclusions as to tongue-reach.

I believe, for practical purposes, it may always be considered true that the bee with the longest tongue has the longest possible tongue-reach. As the man with the shorter arm-reach might secure more persimmons from the tree than his longer-armed but less active brother, so the bee with shorter tongue-reach may excel her less industrious sister in collecting nectar from flowers.

In my first measurements, tongue-length only was taken into account, but in the later ones the tongue-reach, so near as I could measure it, was also recorded. An examination of the figures in the following table will show a far greater variation in the latter measurements than in the former. If the tongue-reach seemed too short when first measured, I could usually increase it by two or three hundredths of an inch by a little careful stretching. I do not mean a real stretching, but a straightening of the joints of the cardos so as to extend the tongue forward as shown in the illustration. The tongue will not remain in this position unless held there.

HOW TO KILL THE BEES.

Chloroform, alcohol, formalin, cyanide of potassium, and boiling water, were all experienced with to determine the

best killing agent, and it was found the last was the only one that would always leave the tongue in a completely relaxed condition for measurement. The water is first made boiling hot and then the bees are either thrust into the water or the water dashed upon the bees.

MEASUREMENT OF THE TONGUE.

To obtain the tongue-reach the head of the wet bee is removed and the tongue pulled out between thumb and finger as far as it will reach and pressed in this condition upon a glass slide with the face of the bee uppermost. The slide is then placed under the compound microscope and upon a rule graduated to hundredths of an inch, and the length of li gula, mentum, sub-mentum and total length read separately and recorded.

WHERE THE BEES WERE OBTAINED.

The bees whose tongues I measured have come from Maine to Texas in this country, and I have also had bees from imported queens from Germany, Italy and the Isle of Cyprus. In several cases bees were sent from the best and the poorest colonies in an apiary, and I took pains to obtain bees from those who were advertising long-tongued or red-clover queens. I have not asked permission to use the names of parties who were kind enough to send me bees, and shall not do so except in one or two cases, where I feel confident there could be no objection.

RESULTS OF THE MEASUREMENT.

Black Bees: Only four lots of black bees have been received. In one lot I obtained a tongue reach of from 13 to 16 hundredths of an inch, and a total length of from 24 to 25 hundredths, and an average of 24.5 hundredths.

Another lot gave a tongue-reach of from 14 to 16 hundredths of an inch, and a total length of from 23.5 to 24 hundredths, and an average of 23.9 hundredths.

A third lot gave a tongue-reach varying between 16 and 19 hundredths of an inch, and a uniform total length of 24 hundredths.

The lot which gave an average tongue-length of 24.5 hundredths seemed to have some Italian blood.

Carniolan Bees: I have had but one lot of Carniolans. The range of tongue-reach in these was between 21 and 22 hundredths of an inch, and the total length of tongue varied between 25.5 and 26 hundredths of an inch, with an average of 25.6 hundredths.

Italian Bees: Tongues from 24 lots of Italian workers have been measured. These have come from various parts of the United States. Usually from five to ten bees were taken for this purpose from each of the lots sent. Some of these bees were rather dark, and others were usually yellow, "golden Italians." Those having most yellow upon the abdomen did not have longer tongues than others.

In the following table I have given the variations in tongue length and tongue-reach, and also the averages of these measurements in the several lots of bees received:

TABLE GIVING LENGTHS OF BEES' TONGUES.

Total Length, Tip of Ligula to Base of Submentum.			Length of Ligula Only.			Tongue Reach.			No. Measured
Longest.	Shortest.	Average.	Longest.	Shortest.	Average.	Longest.	Shortest.	Average.	
26.5	25.	25.40	17.50	16.	16.60	.....	.....	.....	13
26.	25.	25.45	17.	16	16.50	.....	.....	.....	10
26.	25.50	25.67	17.	16.5	16.75	.....	.....	.....	10
26.	25.	25.41	17.	16.	16.50	.....	.....	.....	11
26.	26.	26.	17.	17.	17.	.....	.....	.....	1
26.	25.	25.56	17.	16.5	16.75	17.50	15.	16.70	3
25.5	25.	25.30	17.	16.5	16.30	18.00	17.50	17.70	5
25.	25.	25.	16.50	16.	16.40	17.00	17.00	17.00	5
25.50	25.50	25.50	17.00	16.50	16.83	19.00	17.00	18.00	3
24.50	26.	25.30	17.50	16.00	16.70	17.00	15.00	16.00	5
26.	25.50	25.30	17.	16.5	16.80	16.50	16.00	16.25	5
26.	25.	25.30	17.50	16.5	16.80	18.00	18.00	18.00	5
26.	25.	25.71	17.00	16.	16.79	17.50	17.00	17.10	7
25.50	25.	25.33	16.50	16.	16.42	18.00	16.00	16.80	6
25.50	25.	25.42	17.00	16.5	16.75	21.50	17.00	18.50	6
26.	25.	25.60	17.00	16.00	16.60	22.00	19.00	20.00	5
26.	24.50	25.60	17.00	16.	16.64	21.50	17.00	18.21	7
26.	24.50	25.60	17.00	16.00	16.83	18.00	17.00	17.50	6
26.00	25.00	25.80	17.00	16.50	16.80	21.00	17.00	18.75	5
26.00	24.50	25.40	17.00	16.	16.50	21.00	17.00	18.50	6
26.00	25.00	25.55	17.00	16.50	16.90	22.00	17.00	19 55	10
25.50	24.50	25.65	17.00	16.	16.50	21.00	17.00	18.60	10
25.00	25.00	25.00	16.50	16.00	16.44	20.00	17.00	18.50	8
26.	25.00	25 55	17.00	16.5	16.85	18.00	17.00	17.70	10
Cyprians—From Mr. Frank Benton.									
27.00	26.00	26.15	18.00	17.00	17.20	22.50	20.00	20.95	10
27.00	26.00	26.35	17.50	17.00	17.35	23.00	20.00	22.05	10
26.50	26.50	26.00	17.50	17.00	17.10	23.00	19.00	21.00	10
26.00	25.00	26.00	17.50	16.00	17.00	23.00	20.00	21.90	10
Carniolans—Queen from Mr. Frank Benton.									
26.00	25.50	25.00	17.50	17.00	17.15	22.00	21.00	21.25	4
Black Bees.									
25.00	24.00	24.50	16.00	15.50	15.77	16.00	13.50	14.00	3
24.00	33.50	23.90	15.00	15.00	15.40	16 00	14.00	15.37	5
24.50	23.50	23.90	16.00	15.50	15.55	18.00	16.00	17.10	11
24.00	24.00	24.00	15.50	15.50	15.50	19.00	16.00	16.90	5
Apis Dorsata—Alcoholic Specimens.									
26.00	25.00	25.50	16.50	16.00	16.25	18.00	18.00	18.00	4
Bumble Bees.									
58.00	45.00	50.80	38.00	29.50	33.75	.....	.....	.....	6

SOME CONCLUSIONS.

An examination of the above table will show that the entire tongue-length (from tip of ligula to base of submentum) has varied in these measurements between 24.50 and 26.50 hundredths of an inch in Italians; between 25 and 27 hundredths in Cyprians; between 23.50 and 25 hundredths in Blacks; and between 25.50 and 26 hundredths in one small lot of Carniolans. If we consider the length of ligula alone we shall see that it would vary between 16 and 17.50 hundredths of an inch in the Italians; between 16 and 18 hundredths in the Cyprians; between 15 and 16 hundredths in Blacks; and between 17 and 17.50 hundredths in the Carniolans. The tongue-reach varied in the Italians between 15 and 22 hundredths; in the Cyprians between 19 and 23 hundredths; in the Blacks between 13.50 and 19 hundredths; and in the Carniolans between 21 and 22 hundredths of an inch.

By striking general averages from the columns of averages we get, from the Italian tongue, 25.47; for the Cyprian 26.12; for the Black, 24.07.

The extreme variation in tongue-length in the Italian was but .02 of an inch; it was the same in the Cyprians, and was but 1½ hundredths in the Blacks.

The average tongue-length in the Italian exceeded the average in the Blacks by .014 of an inch; and the Cyprian tongue exceeded the Italians by .0065 of an inch.

By comparing the average tongue-lengths of all that were sent as long-tongued bees with the average length of all bees received, I find a difference in favor of the former of .0004 of an inch. The best average length of any lot sent me as long-tongued was .2555 of an inch, which is but .0008 of an inch longer than the average length of all the bees sent. An examination of the table will show eight lots of Italian bees with an average tongue-length exceeding that of the best lot of "long-tongued" bees.

I shall have to conclude that, so far as my study of the subject has gone, there has been no indication of any strain of the common honey-bee (Apis melifera) worthy of the distinction "long-tongued." If any of the bees examined are worthy of such a name, it is the Cyprians. It is possible, however, that the average length of tongue in this race may be changed by the examination of more material from other apiaries.

These facts do not disprove that there may be strains of bees that work more freely than others upon red clover. It does indicate very strongly that the difference in tongue-length has little or nothing to do with the tendency of bees to work upon red clover. In fact, I have received bees from colonies that were said to work freely on red clover, and along with them bees from other colonies in the same apiary that were said not to work upon red clover, and have been unable to find any difference in tongue-length in favor of the clover workers.

It will be noticed in the table that the few tongues of bumble-bees that were measured are very much longer than the tongues of any of the honey-bees, the shortest being .45 and the longest .58 of an inch. The average length is almost twice the average length of the tongue of the honey-bee.

The specimens of Apis dorsata came from Mr. E. R. Root, and were in alcohol. They were placed in alcohol and boiled until the tongues seemed perfectly flexible and to extend to full length. It will be noticed that the length barely exceeds that of the Italians.

I do not wish to carry the impression that I think it would not be to the advantage of a honey-bee to have an increased tongue-length, but I can hardly understand how the addition of one or two hundredths of an inch is going to help very much to gather honey from red clover. The length of the corolla-tube through which the tongue must reach, in the heads of red clover that I have examined, have varied between .34 and .37 hundredths of an inch. The extreme reach of the tongue beyond the mandibles in any bees I have measured, has been .23 of an inch. It makes me wonder if it is possible that those who think bees have gathered honey from red clover can be mistaken, and that they visit the blossoms of this plant for pollen only. This is only a suggestion, but some one who has the opportunity should settle it for a certainty.

Neither would I leave the impression that I think it impossible to breed up a race of genuine long-tongued bees, but I am very strongly of the opinion that it can only be brought about by a long process of careful selection and breeding. They will not spring into existence all at once.

Photographing a Bee—How it was Done.

BY D. W. WORKING.

READERS of the American Bee Journal may be interested in the story of the photograph as well as in the photograph itself; for it is no easy matter to pose a worker-bee just right and to get as good a picture of her as that shown on the first page of this number.

I took a number of bees to one of the best photographers in Denver—Mr. J. C. Collier—who takes pride in doing difficult work better than anybody else. He shook his head, and said it would be impossible to get the bee to sit still long enough to get a satisfactory exposure. "Why not get a snap shot?" said I. Mr. Collier's look convinced me of the stupidity of my question before he had time to frame an answer. How could he get the bee into focus? I supposed the thing was easy enough—for a professional. But we took no picture that day. When I called a few days later the bees were shrunken corpses. "Too bad!" said the kind-hearted picture-maker.

I wanted a photograph. So a week or two later, I caught a few more bees and carried them to the studio. Mr. Collier saw he must make me a picture to get rid of me. And at it he went! He is a patient man: has photographed dogs, cats, horses, cows, and cross babies that had to be made to look sweet. The bee was worse than any of them. I wanted something more than a life-sized portrait—as the bee-keeper will understand from the engraving—and I got it, thanks to the patience and perseverance of the photographer. But the bee was dead before we got her posed just right, with that look of honey sweetness on her face. It is the "ruling passion" strong in death. She was cross enough to look at before she died—poor thing—but it all came back in time to be caught, and forever impressed on the sensitive plate in the big camera.

In the end, the picture was taken by placing the bee between two plates of glass just far enough separated to hold her in place without squeezing her out of shape. Of course she was not arranged "just right" without many changes and readjustments. But at last she was posed as you see her—not perfectly, as she would have posed herself in life, but so nearly life-like in appearance that she is worth looking at and remembering.

Three times did Mr. Collier make a negative. The first time the plate was exposed three minutes. The result was not to his liking. Then he gave a new plate a ten-minute exposure. The result was better, but still not satisfactory. Finally, after an exposure of seven minutes by the watch, the hard lines of the old man's countenance relaxed as he looked at the plate and said: "It couldn't be better—with such light as we have." So I was satisfied. Arapahoe Co., Colo.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

SMOKING BEES—GETTING WORKER-COMB BUILT.

Two ideas in Dr. Gallup's article, page 662, catch my attention. One is that frequent use of smoke makes bees cross. It seems to me that it must be a wrong reading of the facts that leads to that conclusion. Letting bees get the start of you undoubtedly makes them cross—and then you *have to* use much smoke—and then you can charge the smoke with the mischief which the other circumstance did.

The other idea is moving outside frames into the center to have the comb built worker size instead of drone. I feel ashamed to confess that that comes to me rather as a new idea. It worked in his case, and very likely would work in most cases. It usually *doesn't* work to take out a center comb of a colony that swarms, and replace it by an empty frame; but that is a different affair. In hiving on empty frames and letting entirely alone, the outside combs are mostly not built at all till during a strong flow they are wanted to store honey. This, of course, tends to drone-comb; while getting them built promptly, and in the center, would tend the other way, *unless drone-brood was eagerly wanted.*

CABBAGES AND LEMONS.

Cabbages two cents a pound and lemons one cent a pound, eh? Pretty good lecture on the law of demand and supply. Page 666.

FOLDED CHAFF CUSHIONS.

I can back up Mr. M. H. Hunt, page 668, that folded chaff cushions are a better fit than sewed ones—and also that mice make holes in the latter when piled to store during summer. I have used folded cushions mostly for many years.

SCREEN PORTICOS FOR HIVES.

So, with a big wire portico on the hivs, bees think they can swarm, and sometimes try it and perish. Something of a drawback on the screen portico for June perambulations. I hardly think the loss of the colony would always result from such attempt to swarm. I have all along thought the screen portico the best device for shutting up bees. Didn't say much because top screens were so much more popular—and because I don't perambulate, and therefore my own experience is very scanty. Glad to see Jacob Alpaugh, of Ontario, thinking somewhat as I do. Page 669.

SWARMS GOING INTO WRONG HIVES.

"Little danger of a returning swarm getting into the wrong hive." Ah, that's where you miss it, Mr. J. B. Hall. Swarms return to wrong hive not so much because they make a mistake, as because they don't want to go home after having launched forth from it. Page 669.

SAFE INTRODUCTION OF QUEENS.

The A. D. D. Wood method of introduction is manifestly easier than caging an entire frame. I think we can accept it as nearly safe, seeing that he finds no failures. Of course, downy bees just emerged will not hurt the queen—and equally, of course, she will quit after awhile from "acting up" and provoking assault, if she has no bee of her own near her. I should not be surprised if this should turn out the most valuable practical kink which has been brought out for a good spell. Page 670.

ALSATIANS AND THE EXTRACTOR.

And so the Alsatians, at least some of them, think we invented the extractor—probably because they imported a good one from America. Page 676.

ANCIENT TEMPLES EXEMPLIFIED IN COMB HONEY.

Mr. Ansell's ornamental work in finished comb honey is quite a triumph in its line. Some of the first great and splendid temples that were built in the world were built in that form. Perhaps he had that thought in mind when he chose the form. Pages 673 and 676.

THE HIVE-KICKERS.

The hive-kickers seem to have had an inning at the convention. We see, we see. Even kicking bee-hives is all right if you do it in the right way—as Messrs. Kluck and Coggshall doubtless do. I suppose kicking King Edward in his palace would be all right, if you did it *just right*. Page 678.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Reversible Brood-Frames.

What do you think of the reversible brood-frames? How should they be used? Do you think they are of any advantage? Which is the best style to use? I have not seen anything said of them in the American Bee Journal.

NEW JERSEY.

ANSWER.—If you will turn back far enough you will find a great deal said about reversible frames in the pages of the American Bee Journal, as also in other journals. To day they are seldom mentioned. Quite a number of reversible frames were in existence, and there were also reversible hives, so that the frames could be reversed in a wholesale manner without opening the hives.

It was believed that when there was honey in the upper part of a brood-comb, reversing would make the bees carry up the honey into the super. While that result is generally achieved by reversing, there is found to be in the long run no special gain.

Another advantage was that reversing caused the bees to build their combs down to the bottom-bars—rather up to the bottom-bars. Either because that point could be gained in some other way, or because it costs more than it comes to, we hear nothing nowadays about reversing for the sake of getting frames filled out.

But the great thing that gave reversible frames and hives a real boom was the belief that by their use we had a sure means of preventing swarming. It was claimed that when a queen-cell was turned upside down the bees would not continue it to completion. Then all that was necessary to do was to reverse often enough and no queen-cells would be sealed, therefore no swarming. Like many other things in bee-keeping, it worked better on paper than in actual practice; and it is doubtful that you canfind any one to-day who practices or advocates reversing as a preventive of swarming. So it is hardly worth your while to try reversible frames.

Buckwheat—Sweet Clover, Etc.

1. Will buckwheat honey make suitable stores for wintering bees?

2. About how many colonies could be profitably kept where they would have a range of ten acres of sweet clover, and some outside pasturage, the ten acres to be the main pasture.

3. Would it pay to sow sweet clover for honey alone, where land would cost to rent $2.50 per acre? ILLINOIS.

ANSWERS.—1. At one time it was said that buckwheat honey was bad for winter stores, but later observations seem to show that it is all right.

2. I don't know. One of the hardest things to find out about is the amount of nectar that can be obtained from a given area. If I should make a guess in the case, I should say that ten acres thoroughly covered with sweet clover might give profitable employment to 20 colonies of bees, but I'll not quarrel with any one who says it ought to be three times as large or three times as small.

3. I don't believe it will pay to rent land at $2.50 an acre to sow with any crop for the sake of the honey alone. But I may be mistaken about sweet clover. I do believe, however, that by taking a crop of hay from it once each year it might be made to pay, the honey being so much extra.

Hive-Entrance in Winter—Keeping Combs of Honey, etc.

1. In looking over the "A B C of Bee-Culture," it advises leaving full width of the hive open for winter. I have mine reduced to ⅜x2. I want to know if that is right.

2. I took off a shallow extracting super of 9 frames full of uncapped honey. I really don't know what to do with it. I suppose it will sour before spring. I have one colony in a hive tiered up (2-story dovetailed hives), or rather a Danz. hive on the bottom and a dovetailed on top, with 9 brood-frames in each, both full of honey.

3. I had two others in 2-story dovetailed hives and I put a bee-escape between them, intending to take them off the next day, but other things called me away, and when I went back in a week the honey was uncapped and gone. The bees got under the hive-cover and cleaned it up. What do you think of bee-escapes?

4. I don't think there can be any queen in the brood-nest, as I have not seen any so far, although there is every evidence that there is a queen there, but I don't know how to find her.

TENNESSEE.

ANSWERS.—1. Very likely it will be better to have the entrance open full-width.

2. The sealed honey in care of the bees will probably be all right. The combs of unsealed honey will keep all right if you can put them in a place where it is warm and dry. If that is not convenient, let them be for a day or two in the hottest place you can put them (of course not hot enough to melt the comb), then put them wherever it is convenient, so it is not in the cellar; if you find the honey seems to be getting thin, give it another roasting. As soon as bees begin to fly in spring it can be put in their care.

3. Bee-escapes are highly valued by a great many, but of course it will not do to allow bees access from the outside to any honey placed over escapes. Neither will it work well to leave honey over escapes if thieves understand the situation

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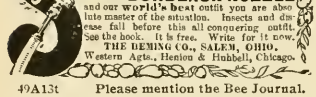

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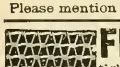

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GENERAL ITEMS

Secured a Crop from Clover.

I secured a fine crop of honey from clover, but there was no fall flow except just enough to fill the hives for winter. Honey sells readily at 15 cents—some sold at 20 cents the forepart of the fall. We had plenty of rain this fall, so we are looking for a good honey harvest next year. The weather has been exceedingly fine, and we have not put the bees into the cellar yet, but there is a change to-day, and I look for colder weather soon.

I have taken the American Bee Journal for over a year, and find it very helpful. I do not see how I could do without it.

BERT GANDER.

Guthrie Co., Iowa, Dec. 1.

"The Proof is in the Eating."

A Mr. Roegman visited me on some business the other day, and, on seeing the bee-hives, made inquiry as to how much honey I got the past season. On being told about $400 from 23 colonies, spring count, and an increase to 58, he could not believe it possible (as he got no honey at all); but on showing him the proof, and explaining that I was indebted to the several bee-books and bee-papers which I was reading, and after offering to return him his dollar, if, after reading it a year, he had not gotten his money's worth, or more, he decided to accept the American Bee Journal.

My bees are still on the summer stands, and have been flying nearly every day this month, though I think it has been detrimental to them. There has been but little brood reared since Sept. 15, and the warm sun has coaxed out a good many bees to perish.

F. W. HALL.

Sioux Co., Iowa, Nov. 29.

Experience with Honey-Plants, Etc.

The past two seasons we have grown cleome or Rocky Mountain bee-plant, as it was so highly recommended for bee-food—"fairly overflowing with nectar." We watched faithfully, but could never discover the bees at work upon the plants, nor hovering near. We have succeeded in our section, however, in growing great quantities of Scabiosia, or "Mourning Bride," and in the late summer and early fall the bees swarm around the blossoms from morning until late in the evening, and they also seem to revel among the blossoms of the Centaurea, or Bachelor's Button, and Summer Savory.

We had a real fight the past season with the moth-millers—they never were so numerous. One colony was entirely destroyed in spite of our watchfulness. After opening a hive and destroying great numbers, in a few days they were all through the hive again. The robbers were also at work—bees killed and honey taken. How can we manage to save our bees from these pests?

SARAH A. BOWERMAN.

Monroe Co., N. Y.

Wintering Bees in Chaff Hives.

Bees in this locality went into winter quarters with ample stores to last them until honey comes again next year. The weather has been very fine the last week, thereby enabling the bees to have good flights, and to reach the watering-places. Some three or four days ago I noticed dandelions still in bloom. I am wintering a part of my apiary in chaff hives, with the upper story packed with chaff over the frames, and leaves on the chaff. Another portion is in the single-walled Simplicity hives, with tarred paper packed clear around and over them, leaving the entrance so that the bees can get out when necessary. The tarred paper will keep off the snow and rain, and will keep the wind from

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.

Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

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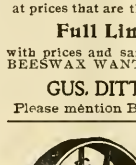
THE WHEEL OF TIME for all time is the **Metal Wheel.**



We make them in all sizes and varieties, **TO FIT ANY AXLE.** Any height, any width of tire desired. Our wheels are either direct or stagger spoke. Can **FIT YOUR WAGON** perfectly without change.

NO BREAKING DOWN.

No drying out. No resetting tires. **Cheap because they endure.** Send for catalogue and prices. Free upon request.

Electric Wheel Co.
Box 16 Quincy, Ills.

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WE ARE MAKING thousands of miles of Page Fence annually—more this year than ever before. Don't you want some?
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

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Send for circulars regarding the oldest and most improved and original Bingham Bee-Smoker. FOR 23 YEARS THE BEST ON EARTH.
25Atf T. F. BINGHAM, Farwell, Mich.

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HOW DIFFERENT is the perfect system of regulating temperature and moisture in the **MARILLA INCUBATORS AND BROODERS** from all others. You will understand when you receive our new catalogue. Fully guaranteed. Money back if you want it. Send 4c in stamps and we will mail catalogue at once.

Hot Water and Hot Air.

MARILLA INCUBATOR COMPANY, BOX 3 ROSE HILL, N. Y.

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SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	$ .75	$1.20	$2.50	$4.50
Sweet Clover (yellow)	.90	1.70	4.00	7.50
Alsike Clover	.90	1.70	3.75	7.00
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover	.80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.

Please mention Bee Journal when writing Advertisers.

blowing through the openings in the hives, thereby keeping the hives dry and warm. White clover has sprung up with the late fall rains, and promises to be pretty plentiful next year. It was never better than last season.

The "old reliable" American Bee Journal comes to hand brimful of good things about bees every week. J. M. YOUNG.

Cass Co., Nebr., Nov. 29.

Bees and Pear-Blight.

I see there is a good deal said about the pear-blight being spread by the bees. I have seen it on trees that had no bloom, so I would say that down here it is more on the water-sprouts, where there is no bloom, than anywhere else. My observation is, that if there is a freeze after the sap is up, there will be blight, bloom or no bloom; no freeze or chill, and there will be no blight. I believe this to be the prime cause of the blight. I would like to hear from others of the same opinion. I have noticed for several years that if there is no late frost there is no blight. I like the American Bee Journal very much.

T. M. GIVAN.

Dekalb Co., Tenn., Nov. 23.

Report for the Season.

As it always interests me to read the reports of others, I take it for granted that they, also, like to hear of the success of those endeavoring to make a living through the agency of the busy bee. I secured 5500 pounds of honey (1000 being comb) from 55 colonies, and increased to 68 the past season. I had better success wintering my bees last winter than most apiarists in these parts, losing but 8 out of 68 (they having starved), when the average loss, so far as I have been able to ascertain, was 75 percent.

I put one colony on the scales last summer. It was fairly strong, and did not swarm. The following is their record:

Date.	*Net gain.*	*Date.*	*Net gain.*
June 14	8 lbs.	" 25	0 " Rain
" 15	4 "	" 26	22½ "
" 16	7 "	" 27	15 "
" 17	6½ "	" 28	13½ "
" 18	0 " Rain	" 29	15 "
" 19	5½ "	" 30	1 "
" 20	10 "	July 1	11½ "
" 21	14 "	" 2	1 "
" 22	12 "	" 3	3½ "
" 23	8 "	" 4–10	0 " Rain
" 24	10 "		

Total gain, 168 pounds from alsike clover and raspberry.

July 11	4½ lbs.	July 14	9½ "
" 12	7½ "	" 15	7¼ "
" 13	9 "		

Total gain, 37¾ pounds from basswood. July 16 to close of season, 27 pounds from buckwheat and goldenrod.

Total for the season, 232¾ pounds.

IRA D. BARTLETT.

Charlevoix Co., Mich.

Caught in a Snow-Storm.

We have a foot of snow here, and the wind has piled it up in our roads so they are nearly impassable. Our fall was generally so pleasant, up to ten days ago, that I left the bees out till too late, and those at the out-apiary are out, nearly covered with snow; over which I feel rather blue, as in all probability they will now have to go in all covered with snow and ice. Those here at home I put into

NO COLLEGE EDUCATION

is needed to run the **Sure Hatch Incubator.** They are so simple that they run themselves. Made of California redwood, beautifully finished; twelve ounce copper tank, and hydro-safety lamp. Fully guaranteed. Our catalogue contains hundreds of photographs of the **Sure Hatch Incubator** at work, and valuable information. Sent free.

Sure Hatch Incubator Co., Clay Center, Neb., or Columbus, O.

Please mention Bee Journal when writing.

OUR NEW CATALOG, describing and listing the **FINEST LINE OF BEE-KEEPERS' SUPPLIES IN THE WORLD,** will be ready about the first of the year. If you have not been receiving a copy annually, send us your name and address and one will be mailed you free. Prices will be same as last season with the exception of the narrow, plain sections with no bee-ways, which will be 25 cents per thousand less.

G. B. LEWIS COMPANY, Watertown, Wis., U. S. A.

Special Agency, C. M. Scott & Co., 1004 East Washington Street, Indianapolis, Ind.

Excellent shipping facilities and very low freight rates for Southern and Eastern territories.

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26 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 26 cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

Why Not Buy the Best?

It costs no more than inferior styles. We claim that **Adam's Green Bone Cutter** is the best because it is the only Ball Bearing machine on the market. It works on the shear principle, turns easier, cuts faster and cleaner, and prepares the bone in better shape than any other. Write at once.

Catalogue No. 9 Is Free.

W. J. ADAM, - - JOLIET, ILL.

IF IT'S AN ADAM IT'S THE BEST

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TWO GREAT PAPERS.

The American Bee Journal

AND

The Ohio Farmer...

Both Papers One Year Only $1.50.

Or with Ohio Farmer TWO years only $2.00.

A 20-page, 80-column weekly, with the best staff of editors and correspondents: a strong, fearless defender of the farmers' interests, and clean in both reading and advertising columns. It Helps to make the farm pay.

Send to Ohio Farmer, Cleveland, Ohio, for free sample copy, but send all subscriptions to GEORGE W. YORK & CO., 144 & 146 Erie Street, CHICAGO, ILL.

200-Egg Incubator for $12.80

Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.

GEO. H. STAHL, Quincy, Ill.

45A26t Mention the American Bee Journal.

Danzenbaker Hives.

In flat and made up—at very low price.

50Ctf O. C. MASTIN, Trent, S. D.

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CYPHERS INCUBATOR,

World's Standard Hatcher,

Used on 26 Gov. Experiment Stations in U. S., Canada, Australia and New Zealand; also by America's leading poultrymen and thousands of others. Gold medal and highest award at Pan-American, Oct. 1901. 32-page circular free. Poultryman's Guide, 224 pages, 8x11 in., mailed for 10c.

Ask nearest office for book No. 69

CYPHERS INCUBATOR COMPANY,

Buffalo, N. Y., Chicago, Ill., Boston, Mass., New York, N. Y.

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BEE-SUPPLIES!

Manufacturers' prices. Complete stock. Send for our catalog.

FRED. W. MUTH & CO.

S.W. Cor. Front & Walnut Sts. **CINCINNATI, O.**

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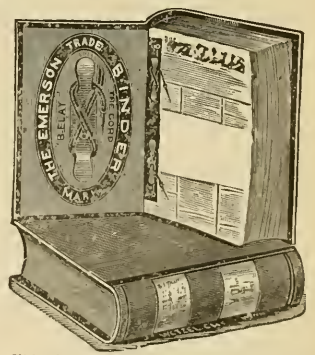
The Emerson Binder



This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO., 144 & 146 Erie Street, CHICAGO, ILL.

the cellar when it first began snowing, and it is pleasing to hear their merry, contented, quiet "talk" to each other, as they hang in clusters below the frames as large as the crown of a hat. Eight colonies have been left out, in chaff-packed hives, so that I can hear them fly, should a day or two of warm weather occur during the winter.

G. M. DOOLITTLE.

Onondaga Co., N. Y., Nov. 29.

Experience with Bees.

I came here in March, 1900, and commenced farming on my father-in-law's place, two miles from town. My father-in-law, Abner Bliss, has kept a few colonies of bees for many years, with varying success. He became very much interested lately, however, and commenced studying the business to learn it more perfectly. As for me, I have been interested somewhat in years gone by. During the winter of 1883-84, I had the privilege of forming the acquaintance of Mr. N. Johnson, of Douglas County, who was a successful bee-keeper, and a reader of the American Bee Journal, if I remember rightly. There I saw a Langstroth hive for the first time, a foundation machine, comb foundation, a press for putting it in the sections, and many other things. I had a few colonies of bees at the time, and so became much interested, but lost them in 1885. I secured a colony or two afterwards, but lost them, still I determined to try again.

Mr. Bliss told me if I would get a Danzenbaker hive he would give me a swarm to put into it. Accordingly, I sent for one and got a start again. To be safe, I thought I would better get another, which I did, and had it ready. Shortly after receiving it my son found a swarm on a hedge, and I put it in the hive. When autumn came I found the first colony had some surplus honey, but the other needed feeding, so I fed them and put them into the cellar, hung up a thermometer, and kept the temperature correct through the winter. Mr. Bliss has practiced keeping his bees in this cellar for some years with excellent success. When we took our bees out of the cellar last spring we found them in good condition, but the mice had eaten away some of the combs.

After I had secured a start in bees again I subscribed for the American Bee Journal, Mr. Bliss has the "A B C of Bee-Culture," and Doolittle's "Scientific Queen-Rearing," and I have "Langstroth on the Honey-Bee," Cook's "Manual of the Apiary," and Newman's "Bees and Honey." And *I read* last winter.

Mr. Bliss bought 19 queens, and I 6; we then began making hives. We ordered sections and foundation, and I made a machine for putting in starters, which is adjustable, and works with a foot-lever and an alcohol-lamp. I think it is a success, and beats anything I have seen.

When our queens came we had "business at home" for awhile, and I think we were remarkably successful, but we do not know it all yet. I saved six queens out of six, and made some mistakes besides. We have learned something, and appreciate the assistance we get from the American Bee Journal and the books very much. Our honey-yield the past season was fair, and of very fine quality.

R. L. WILDMAN.

Peoria Co., Ill., Nov. 1.

$5 INCUBATORS FREE 50 EGG SIZE
Self-regulating, guaranteed for 2 years, hatches every good egg. Send for catalogue No 59. Sells at sight and gets one free.
INVINCIBLE HATCHER CO., SPRINGFIELD, OHIO.
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If you want the Bee-Book
That covers the whole Apicultural Field more completely than any other published, send $1.25 to
Prof. A. J. Cook, Claremont, Cal.,
FOR HIS
"Bee-Keeper's Guide."
Liberal Discounts to the Trade.
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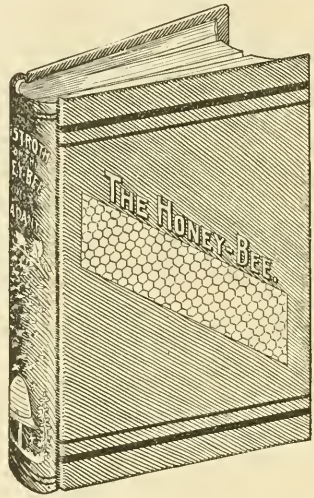
Langstroth on... The Honey-Bee

Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly ex-



plained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us **THREE NEW** subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

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☞ After the theatre or other evening entertainment, the Night Express on the Nickel Plate Road leaves daily at 11:20, from the Van Buren Street Union Passenger Station. Arrives at Cleveland at 10:20 a.m. Breakfast in Dining Car. Makes connections at Buffalo for all points East. Arrives at New York City 7:50 second morning, and Boston at 10:15. Sleeping Cars open at 9:30 p.m. Ticket office, 111 Adams Street. 'Phone Central 2057.
47—50A3t

BEEDOM BOILED DOWN

Management of Foul Brood.

The Rocky Mountain Bee Journal is quite optimistic with regard to the management of a colony of bees run for comb honey in case such a colony is affected with foul brood, saying:

Some of our largest and best comb-honey producers have for years made a specialty of producing fancy honey. It is a well-known fact that section honey produced over new brood-combs will be cleaner and whiter than that produced over combs that are one year old, or older. In most localities there would be a big loss in having new brood-combs built every year. To one who has never tried it, such would seem to be the case in Colorado, but those who are practicing it assert that there is not only not any loss in the number of pounds of surplus honey produced, but an actual gain in the superior grading quality of the honey secured, and the yield of wax from the old combs.

To secure new brood-combs each season and not lessen the crop of surplus honey at the opening of the honey-flow, each colony is shaken into a new hive containing only foundation starters in the frames, but full sheets of foundation in the sections, with a queen-excluding zinc between the first super and the brood-chamber. The bees will prefer the full sheets of foundation to the starters, and begin to work vigorously in the sections, building comb in the brood-chamber only just fast enough to accommodate the maternal capacity of the queen. By the close of our long honey season the brood-chamber will be filled, and the best possible work will have been secured in the sections.

To make a success of this system, colonies must be strong, and the work must be done at exactly the right time. It may be said further in its favor, that it effectually solves the problem of swarming.

Do Queenless Bees Prefer Too Old Larvæ for Queen-Rearing?

Last year I attempted to get an answer to this question. I think the result was conclusive; but Hon. R. L. Taylor thought the position of the combs was such as to favor starting queen-cells from the younger brood. This year I thought I would make the test in such a way that no such objection could be made. At the same time I simplified the question put to the bees, putting it in this form:

"Which do you prefer for queen-rearing, a cell in which an egg was laid not less than six days ago, or one in which an egg was laid not more than four days ago?" Or, assuming that the larva hatches from the egg in three days, the question would be, "Which do you prefer, a larva three days old or one 24 hours old?"

July 16, at 10 a.m., I took from a nucleus the only comb it had, which comb we will call comb *a*. The queen in the nucleus had been laying about a week, and during that time had been confined to one comb, so I could be morally certain that eggs had been laid just before removal. The comb was about two-thirds filled with brood and eggs. I put it in an upper story of a strong colony over an excluder, along with other unsealed brood that had been there for some days, a feeder being on top, so that it would be well cared for.

July 18, at 10 a.m., I took from a nucleus (in which was my best queen) its two brood-combs, and gave it a comb that had not been with a queen for more than a week. It had a few cells of sealed brood, and its cells were well polished, ready for immediate use. This I called comb *b*.

July 22, at 10 a.m., I took from a full colony its queen and all its brood, putting in the center of the hive combs *a* and *b*, and filling

out the hive with combs containing some honey. A feeder was on top.

The combs were thus put on an equal footing, so far as I could determine, nearly the same amount of brood being in each comb, *a* having a little the most. Being side by side, in the middle of the hive, neither one could have an advantage in position.

July 24, at 10 a.m., I examined comb *a* and comb *b*. (I must confess that I forgot to look at them July 23.) On comb *a* I found one cell started. On comb *b* there were 28, a few of them not yet drawn out, only the cells were enlarged. I may as well say here that no other cells were started later, somewhat to my surprise. Perhaps the bees thought it was enough to start 29. All but one were completed.

In this case the bees had their choice of brood of all ages from eggs just laid to sealed brood, *excepting* larvæ between the ages of one and three days. If it were true that they were in such haste for a queen that they would select too old larvæ, certainly one would have expected comb *a* to have greatly the preference, instead of their being content with larvæ so young as 24 hours. But their general preference was for something younger than the three-day larvæ—not only younger, but very much younger. Just one cell was started with a larva as old as three days. One can not be positive as to the age of that one, but one can be very positive as to the other 28. July 24, when they were inspected, not a larva on the comb could have been more than three days old, as it is not possible that a cell on that comb was at any time started with a larva beyond that age. As they were all started *before* 10 a.m. of that day, it is certain that none of them could have been as much as three days old, and probable that most of them were much younger.

Some one may ask, "Why are you so persistent in trying to show that the universally accepted opinion is wrong? What difference does it make, anyway?" The simple desire to have the truth known ought to be incentive enough. But there is something else that makes it seem to me a matter of very great consequence.

It is probable that not one in fifty of the bee-keepers of the land takes the pains to use the means that are now taught to be necessary to secure the best queens, using cell-cups and that sort of thing. Nor will they. It looks like too formidable an affair. So 49 out of the 50 might be supposed to talk something after this fashion:

"I am told I ought to breed from my best stock. I can make queenless the colony having my best queen, and start queen-cels galore, and from these I can have all the queens I want. But if I do that the bees will select larvæ too good for old queens, and I can't use the complicated plans that queen-breeders use, so all I can do is to go on as I have done." And that means to have his increase and his queens from swarming colonies instead of honey-gathering colonies. And so the persistence of the fallacy that queenless bees prefer too old larvæ cheats that man out of the chance of easily improving his stock.

He should be told the truth in something like these words:

"A queenless colony will rarely, if ever, prefer larvæ too old for good queens. None of the most improved methods of modern times will produce queens a whit better than those the bees will rear in a colony you have made queenless, so long as they have young enough larvæ to select from. After the larvæ have become too old they may still start cells, and these will produce poor queens. If you give to a nucleus or a colony two or three good-looking cells, there is small chance of a poor queen. Or you may give to the queenless colony a fresh frame of brood and eggs five or six days after being made queenless, and then you need have no fear of poor cells on any of the previous frames."—DR. C. C. MILLER, in Gleanings in Bee-Culture.

1901—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog.

M. H. HUNT & SON, Bell Branch, Wayne Co., Mich

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CONVENTION NOTICES.

New York.—The 38th semi-annual meeting of the Seneca County Bee-Keepers' Association, will be held at the Bevier House, Romulus, N.Y., Saturday, Dec. 14, 1901, at 10 a.m. 1:30 p.m. Hon. R. L. Taylor, of Michigan, will be present and address the meeting. "Queen-Rearing" discussion opened by Ira Wilson and C. J. Baldridge; "Repairing Old Hives or Obtaining New Ones," J. C. Howard and H. L. McLellan. Dinner will be served at the Bevier House, special rates having been secured.

FRED S. EMENS, Pres.
C. B. HOWARD, Sec.

Vermont—The State Horticultural Society and the Vermont Bee-Keepers' Association, will hold a joint meeting at Vergennes, Dec. 17 and 18, 1901. M. F. CRAM, Sec.
W. Brookfield, Vt.

Wisconsin—The Wisconsin State Bee-Keepers' Association will hold its annual convention in the State Capitol, at Madison, Feb. 5 and 6, 1902. This promises to be a large convention. All are invited to attend. There will be excursion rates of 1½ fare for the round-trip, good for all of the first week in February.

N. E. FRANCE, Pres. ADA L. PICKARD, Sec.

Michigan.—The Michigan State Bee-Keepers' Association will meet in convention at Petoskey, Jan. 1 and 2, 1902. This promises to be the most largely attended meeting of the Association in years. You are invited to attend. Reduced rates on all railroads; tickets can be bought Dec. 30 and Jan. 1, good to return not later than Jan. 4. There will be no set program, but another of our "open congress" meetings. Those who have attended in the past know what that means, and those that don't should come and find out. A novel design for badge has been ordered in honor of "Petoskey."

GEO. E. HILTON, Pres.

New York.—Bee-Keepers' meetings and institutes will be held in this State as follows: Rochester, Dec. 11; Canandaigua, Dec. 12 and 13; Romulus, Dec. 14; Auburn, Dec. 17; Fonda, Dec. 18. These institutes are held under the auspices of the Bureau of Farmers' Institutes, and will be conducted by prominent bee-keepers and speakers from home and abroad. Bee-keepers are urged to attend and show by their presence that they appreciate these institutes, otherwise they will be discontinued.

W. F. MARKS,
Pres. New York Ass'n of Bee-Keepers' Societies

Wanted Comb and Extracted Honey!

State price, kind and quantity.

R. A. BURNETT & CO., 199 S. Water St., CHICAGO
33Atf Please mention the Bee Journal.

Wanted—Honey.

Car Lots or otherwise; will pay highest market price, spot cash. Address, stating quantity, quality, and price desired at your station. Will send man to receive when lot is large enough to justify. THOS. C. STANLEY & SON,
31Atf FAIRFIELD, ILL.

Wanted Comb Honey and Beeswax. State price delivered in Cincinnati.

C. H. W. WEBER,
43Atf 2146-2148 Central Ave., CINCINNATI, O.

The Sure Hatch.—We are in receipt of the Sure Hatch Incubator Company's fifth annual catalog. It is a book of some 166 pages, over 200 illustrations, and contains a vast amount of poultry information, plans for poultry-houses, yards, etc., chapters on practical poultry-raising, and how to make money on a small investment, etc. Look up their ad. on another page, and write them, and mention that you saw their ad. in the American Bee Journal.

THE NICKEL PLATE ROAD

will sell tickets Dec. 24, 25 and 31, 1901, and Jan. 1, 1902, at rate of a fare and a third for the round-trip to any point located in Central Passenger Association territory, account Christmas and New Year Holidays. Return limit including Jan. 2, 1902. Through service to New York City, Boston, and other Eastern points. Chicago Passenger Station, Van Buren St. and Pacific Ave., on the Elevated Loop. For further information address John Y. Calahan, General Agent, 111 Adams St., Chicago. 46—49A4t

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Nov. 19.—Honey is selling fairly well at about the prices that have prevailed for the last 2 months, viz: choice grades of white comb honey, 14½@15c; good to No. 1, 14c; and light amber, 13c, with darker grades, 10@12c. Extracted, white, 5½@7c; amber, 5½@5¾c, according to quality, flavor and package. Beeswax good demand at 28c.

R. A. BURNETT & CO.

CINCINNATI, Oct. 25.—The honey market is rather dull on account of the warm weather. Extracted sells only to manufacturers from 5@6c; better grades alfalfa water-white from 6@7c; white clover from 8@9c. Fancy white comb honey sells from 13½@15½c.

C. H. W. WEBER.

ALBANY, N. Y., Oct. 25.—Honey in good demand now, as this is the most satisfactory time to sell. Grocerymen are stocking up and will buy lines, when late they only buy enough to piece out. Fancy white comb, 15@16c; mixed, 14@15c; buckwheat, 12@13c. Extracted, white, 6½@7½c; mixed, 6@6½c. H. R. WRIGHT.

OMAHA, Oct. 25.—New comb honey is arriving by express in small quantities from Iowa and Colorado, and selling at $3.50 per case in a retail way. California extracted honey is being offered carlots at 4½@4¾c per pound, f.o.b. California shipping-points, but we have not heard of any sales having been made thus far. The production of extracted honey seems to be quite large this year in Colorado, Utah and California. PEYCKE BROS.

NEW YORK, Nov. 8.—Comb honey is in good demand, and while the market is not overstocked, receipts are sufficient to supply the demand. Fancy white sells at 15c, with an occasional sale at 16c for attractive lots; No. 1, white, at 14c; No. 2, at 13c; fancy buckwheat, 11@11½c; No. 1 and 2 at from 10@10½c. Extracted remains quiet at from 6@6¾c for white, and 5¾@5¾c for amber. Very little demand for dark at 5¼@5½c. Beeswax quiet at from 27@28c. HILDRETH & SEGELKEN.

BOSTON, Nov. 20.—The demand for honey is easing up, somewhat due in part to the holiday season at which time it is much neglected.

Our market at the present time runs 16c for strictly fancy in cartons; No. 1, 14@15c; No. 2, 12@13c. Extracted, light amber, 7½@8½c; amber, 7c. BLAKE, SCOTT & LEE.

DES MOINES, Oct. 25.—There is very little doing here in new crop of honey. Some small lots of near-by produced comb honey are on the market and selling in a retail way at $3.50 to $3.75 per case. We do not look for much trade in this line before Sept. 1. Our market does not consume a great deal of extracted honey.

PEYCKE BROS. & CHANEY.

DETROIT, Oct. 25.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.

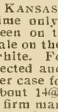
M. H. HUNT & SON.

SAN FRANCISCO, Nov. 28.—White comb, 11@12½ cents; amber, 8@10c; dark, 6@7 cents. Extracted, white, 5½@6c; light amber, 4¼@5c; amber, 4@—. Beeswax, 26@28c.

Not much doing in this center, but there are no large stocks here of any description, and current values are being on a quite well maintained. There is more moving outward at present from southern producing points than from here. Some apiarists are reported holding back supplies, anticipating better prices in the spring.

KANSAS CITY, Oct. 25.—Up to the present time only small lots of new comb honey have been on the market, and these met with ready sale on the basis of 15@16c per pound for fancy white. For next week heavier receipts are expected and quotations are issued at $3.10@$3.25 per case for large lots, which would be equal to about 14@14½c; the demand being quite brisk, a firm market is anticipated. Inquiries for extracted are a little more numerous, but large buyers still seem to have their ideas too low. In a small way 5½@6c is quotable.

PEYCKE BROS.



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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., DECEMBER 19, 1901.

FORTY-FIRST YEAR
No. 51.

WEEKLY

APIARY OF MISSES AUDREY AND ADNAH YOUNT, OF SPOKANE CO., WASH.—(See page 804.)

THE AMERICAN BEE JOURNAL.

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DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

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OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

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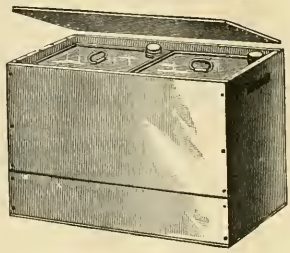

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This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

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Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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A Merry Christmas to all Our Readers.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., DECEMBER 19, 1901. No. 51.

Editorial.

That Hoary Lie about the adulteration of comb honey seems still to retain much vigor. Here is a sample of its cat-like vitality, kindly sent to us by Chas. F. Hoser and others:

On my vacation in Michigan last summer I got some real honey—the real sweet kind, with a comb that chews up beeswaxy.. It was so good that for three months after I came back I tried to get, in Chicago, some honey, but I could not find it. Of conrse, every grocery store had what it said was strictly pure honey, in the nicest looking combs—too nice looking; it was plain that it was all manufactured. A few days ago my grocer told me he had some real honey this time. I was certain of that, too, as soon as I saw it. I have worked with bees and know the ear-marks of their handiwork, and that comb was just irregular enough, imperfect enough in places to fool me. I bought two pounds. And when I got it home and took a monthful the honey was not very sweet—it was a poor grade of glucose; and the comb melted in my mouth—it was paraffin.

No fading away of vigor about that, is there? Indeed, it has gained a robustness that exceeds its former self; for in former stages it only claimed that a minor part of the comb honey in Chicago was adulterated; now there is none of the genuine to be found in Chicago, although it be sought carefully for three months!

The amazing part about it is that this vigorous slander is not found in some obscure place, spoken by some ignoramus in the country grocery at the crossroads, but it is an opinion delivered in all seriousness before a body of supposedly brainy men. It is an extract from a paper read by the proprietor of the Farmer's Call, at the annual meeting of the National Agricultural Press League, and published in that sprightly periodical, Agricultnral Advertising, published by Frank B. White Co. Mr. Frank B. White is well known as a man of nntarnished reputation, and the soul of honor. Taken altogether, after so many years of battling with a great wrong, bee-keepers may be excused for feeling just a little discouraged as to getting anything like a semblance of justice.

More may be said of this hereafter.

Influence of the Queen.—There has been some discussion as to whether the queen or the workers has the most influence upon the character of young royalty, some asserting that when black workers rear a queen from the egg of an Italian queen it would be the same as if reared by Italian queens, while others say the black nurses make of it a different being. Very far from this last view is that put forth in this country and in Europe, that a queen not only influences the character of her own offspring, but produces in some way, by her presence, a direct change upon the workers of another queen. The assertion is made that when the queen of a very cross colony is removed, and a queen of gentle stock introduced, not only will the colony be gentle when all the old workers have died off, but the crossness will all disappear within two or three weeks from the introduction of the new sovereign; in other words, while the bees of the cross colony are daily hatching out, and as yet there is not a single worker of the new colony.

As the newspapers say, "This needs confirmation;" and it would be well if those who have the opportunity would observe at what time a change of deportment may be seen when a gentle queen is put in place of a cross one.

Brood-Frame End-Spacers.—Opinions of bee-keepers are not so diametrically opposite as to many things as they are about the change made in frames which shortens the top-bars and depends upon staples driven into the end-bars to hold the frames in place lengthwise. Some claim that the change is a real boon. The bee-space at the ends of the top-bars prevents deposition of glue at that point, making it much easier to handle the frames. Others say the staples are constantly driven further in, and as soon as driven in far enough there is the worst kind of trouble. The difference in the thickness of top-bars or end-bars may account for the difference of opinion. With a top-bar less than half an inch in thickness, and a ¼-inch end-bar, the staple will not be firmly held, and will soon be out of place. With a thick end-bar, or with a top-bar so thick that the staple will be driven through the end-bar into the top-bar, there ought to be little or no trouble.

A Swarming Story.—The following has been sent to us as the report of something remarkable:

A BEE STORY. James D. Noland, an 80-year old farmer of Pike township, has had an unusual experience in his apiary this month. On Sunday, June 9, a swarm of bees came from one of his hives, and on Monday, Tuesday and Wednesday following, swarms came out of the same hive—four swarms in four consecutive days. Mr. Noland succeeded in saving all of them, and all were large, vigorous swarms, and are reported doing well at this time. This is a bee-swarming story not likely to be beaten.—Coshocton Democrat.

There is nothing remarkable in having four swarms on four successive days from the same colony. When bees are allowed to swarm at their own sweet will, there may be a prime swarm, and then three or four after-swarms, possibly five or six. If anything should happen to the old queen, or if for any reason she should not be able to accompany the swarm, the prime swarm would return, and a week or more later a swarm would issue with the first young queen; and this would be likely to be followed by several after-swarms. But it is an unusual thing for any swarm after the second swarm to be a large one, and to have four swarms in succession from the same colony all "large, vigorous swarms," would be something so far out of the usual that one may be excused for supposing that there was in the case a reporter with a "large, vigorous" imagination.

Control of Fertilization, if secured, might not bring all the success expected from it. In a former number of this journal Adrian Getaz wrote:

"If we could breed from an individual drone of our choice, how could we tell that this drone would give better workers than that one?"

Quoting this, Mr. Simpson, in the Bee-Keepers' Review, calls it an overwhelming truth, and says:

"That is the fundamental fact on which I base my contention that fertilization in confinement is not the *sine qua non* (without-which-nothing) of successful queen-*breeding*."

When to Extract Honey.—A writer in Gravenhorst's Bztg. says: "I extract from combs that are mostly sealed. In order to find in the lower part of the comb, where the cells are yet unsealed, honey sufficiently ripe, I use the morning hours for extracting. Early in the morning there is found in the combs no thin nectar to shake out easily and excite robbing. All the nectar gathered the previous day is *somewhat* thickened. If several rainy days occur, then the morning of the first flight-day after the rainy spell will find the unsealed honey as thick as that which is sealed."

Weekly Budget.

THE MICHIGAN CONVENTION is to be held Jan. 1 and 2, 1902, at Petoskey. We have received a very cordial invitation to attend, and accompanying it there was one of the most beautiful badges we have seen in a long time. We would like very much to be there.

but it is quite impossible for us to leave our office at that season of the year.

A number of the more prominent bee-keepers are to be present, and no doubt one of the best conventions of the year will result. Pres. George E. Hilton knows how to plan for a successful meeting. There will be reduced rates on all the railroads leading to Petoskey. See particulars on another page.

The closing paragraph of the letter we received, reads as follows:

There is no place like these conventions for exchanging views, receiving and imparting knowledge, and, as we are all more or less dependent on each other, let us meet in that spirit of friendship and harmony that has always prevailed at our meetings, and make it possible for us to go back to our homes and tell our friends that we were glad we went; that it was just that "feast of reason and flow of soul" that we needed.

Better go, if you can, and help make it the best that the Michigan Association ever held. Beginning with the Buffalo convention, there have been some good meetings of bee-keepers this year. The Colorado, Chicago, Minnesota, and Ontario, were all exceptionally fine ones, we understand. Of course, we *know* that the Chicago was all right, as all will agree when they read the full report to be published in these columns later.

APIARY OF THE MISSES YOUNT is shown on our first page of this week. There are 7 hives that do not show. The girl with the mandolin in her hand is Miss Adnah; the other is her older sister, Miss Audrey. These young lady bee-keepers hope by another fall to send us a picture showing 60 colonies. Miss Audrey now owns 6 colonies, and Adnah, 21 colonies. We wish them every success in their effort to become leading bee-keepers in their great State.

MR. W. A. PRYAL, whose bees are in Alameda Co., Calif., writing us Dec. 6, had this to say:

I was over to the old place yesterday, and I noticed that the bees were working as merrily as they would be in March. They find many kinds of flowers to work upon. The winter has been a mild one so far. We have had no really cold weather yet. This morning has been the first cold day so far this season. You may know how warm it has been when I inform you that tomato plants are still green and fresh in the open ground. Calla lilies are growing grandly, and blooming as if it were spring.

In this portion of the State the rains so far have been liberal—I might say, abundant. Within the fraction of an inch the rainfall has been the same as up to the same time last year. The difference in the two years is that it has not been so cold, and we have not had so much fog, though for a day or two last week we had fog that was worse than anything we had for years past. It was in one of these fogs one ferry boat on San Francisco Bay ran into and sank her sister boat of the same ferry. This was the first accident of the kind in over 20 years; the former was not attended with loss of life, while four are accounted as lost in this last disaster.

I noticed by last night's paper that the lower counties of the State have been having some heavy fogs, too. One of the very best counties in the State prides itself on the amount of its fogs. This county has an abundant crop every year. I refer to Sonoma county, a short distance north of this city. The south has had but little rain so far, as the reports show, but in good time I am sure a fair amount of rain will visit that portion of the State. W. A. PRYAL.

The Buffalo Convention.

Report of the Proceedings of the Thirty-Second Annual Convention of the National Bee-Keepers' Association, held at Buffalo, New York, Sept. 10, 11 and 12, 1901.

(Continued from page 790.)

FEEDING BEES FOR WINTER.

"Would heavy candied combs of honey alone, be safe to winter bees on, or cakes of candy alone, be safe, without any combs of honey?"

A. I. Root—I think the most successful feeding I did was with cakes of maple sugar. I have taken late colonies in the fall with almost no combs at all, and laid cakes of maple sugar over the frames and wintered them all right. But there is a good deal of difficulty about wintering bees without combs; if the candy gets damp and sticky, the bees will stick to it and will die, and if they get the dysentery they will die. Candied honey is not exactly satisfactory, but sometimes it will answer. In sugar feeding, sometimes the sugar candied in the combs, and I have known the bees to let a lot out on the bottom and then seem to die for want of moisture. The difficult thing is to furnish enough moisture along with the feed. Up here in New York State where you have colonies by the hundreds or thousands you cannot bother with candied honey. Maple sugar is a very nice thing to build up colonies where they are short of stores. I put it on in the fall and left it on all during the winter, and in the spring when they have been short of stores I have put it over the frames to stimulate them. One of our most successful bee-keepers in Ohio wrote to me that she had 50 or 60 colonies of bees and they were short of stores. I told her to buy cakes of maple sugar and put over the combs, and she said that she had one of the biggest yields that they had in Ohio. She attributed it to the maple sugar, but it needs watching and care.

BEE-STINGS AND THEIR REMEDIES.

"What can we do if badly stung? Should every bee-keeper have a bottle of ammonia? How is it administered? What is to be done to a horse when badly stung?"

W. L. Coggshall—I never had any horse stung.

Mr. Niver—I cover up so I don't get stung.

W. L. Coggshall—I feel as if I had been very successful in that line. I have handled a good many bees and we haven't had any accidents yet.

A Member—My mother was very badly stung at one time when she hived a swarm of bees, and they gave her salt and water to keep the poison from her stomach as much as possible, and we saved her life in that way. It was done by a professional nurse.

Mr. Alpaugh—I have a remedy from an outsider that doesn't keep bees, that is a complete one, which is simply a little coal-oil.

Mr. Baldridge—My son was stung when very much heated, just under the chin, and so much affected that he swelled all over. We sent for the doctor at once, but before he arrived my son vomited and the swelling went down at once.

Mr. Longnecker—A remedy which I have seen used is to bathe the part with a strong solution of soda. It is very cooling and satisfactory.

Mr. McEvoy—The doctors generally recommend aromatic spirits of ammonia, half a teaspoonful; and if it doesn't work in a few minutes—don't wait long—repeat it.

Dr. Mason—I believe that whiskey is better than ammonia.

Mr. Fuller—My remedy is chloroform. Just a few whiffs inhaled always relieves me.

SECTION SIZE—BLEACHING HONEY.

"Which is preferable, the 4¼, or the 4x5 section?"

Dr. Mason—That depends upon locality.

"Can extracted honey be bleached? If so, how?"

W. J. Craig—It can be improved. We have had extracted honey exposed in a room where the sunshine could penetrate and we found that the honey which we had exposed in that way was much lighter within a week than the same honey which was confined in a dark place. We put it in 5 or 10 lb. cans.

EXTRACTING HONEY—COMB HONEY GRANULATING.

"In running for extracted honey, should one spread the combs, and then when uncapping cut deep?"

W. L. Coggshall—I spread six or seven combs and uncap them evenly.

"What is the cause of comb honey in sections becoming granulated soon after being removed from the hive, or much earlier in the season than in former years, in some localities?"

Mr. Fuller—My experience is with comb honey, if you will keep it at a temperature of about 92 to 95 degrees it won't granulate.

COMB-HONEY BEES.

"What strain of bees is the most profitable for comb honey?"

Mr. Alpaugh—I would say a good cross between Italian and a black. Blacks are very good of themselves, but I don't like them, for the reason that they are a little awkward to handle; but I do think that a good cross between an Italian and a black would be all right.

Mr. Baldridge—I like good yellow-colored Italians for all purposes.

Mr. West—The best that I have seen

for the past two years was a cross between the Carniolans and the Italian.

Huber Root—I have found a cross between a Carniolan and an Italian a good cross.

Mr. Fuller—I can get the best results by having full-blooded Italian queens and let them mate as they please.

Mr. Greiner, chairman of the committee on the score card, then handed in their report, but not being quite completed it was left in the committee's hands to be completed and forwarded to the secretary.

Mr. McEvoy moved that the report be adopted as read. Mr. Smith seconded the motion, which was carried.

The convention then adjourned to meet at 8 p.m., at the Epworth Hotel, in Joint Session with the American Pomological Society.

(Continued next week.)

Condensed Report of the Illinois Bee-Keepers' Convention.

The Illinois State Bee-Keepers' Association met at Springfield, Nov. 19 and 20, 1901, and was called to order by Pres. J. Q. Smith. The forenoon session was mostly spent in visiting and getting acquainted, except the usual preliminaries—secretary's report, and reports of committees.

The afternoon session was called to order by Vice-Pres. S. N. Black.

DARK UNCANDIED HONEY.

"What is the dark mixture in honey that does not candy?" was asked. It was too hard a question to receive an answer till Mr. Smith came in. He said his bees stored quite a lot of that kind of honey one year, and he found, on the alighting-board, dust from the milk-weed, and there was a great field of the weeds in full bloom; and he found his bees working on it strong.

Mr. Black—I have seen bees fastened on milk-weed blossoms, and dead.

Mr. Smith—That honey did not candy.

FERTILIZATION OF WORKER-EGGS.

Geo. Poindexter had illustrations of his own pointing in evidence of the Wagner theory of the fertilization of the worker-eggs, and not of the same for the drones. He thought the theory was correct.

Mr. Black did not think the theory was correct, as he had seen where the queen had laid fertile eggs in cells so near the edge of the comb as not to have depth enough to cause the contraction of the queen's abdomen in depositing them; others had seen the same thing.

HONEY-DEW, ETC.

"Is there such a thing as real honey-dew, aside from the so-called 'bug-juice?'"

Many illustrations were given to prove that there was, and it was unanimously decided that there was real honey-dew honey, and that of good quality.

"Do bees always select their place of destination before swarming?"

Arguments were advanced to prove both sides, and the question is still open for argument. Mr. Black cited a case where bees surely went 20 miles across a prairie.

SECOND DAY.

The meeting was called to order by Pres. Smith, and a discussion was opened on the premium list. Mr. Black moved that the executive committee, which is the President, Secretary and Treasurer of the Association, be made the premium-list committee, and that the revision of the same be left to them. Carried.

Mr. Becker moved that the meeting proceed to election of officers for the ensuing year, which was carried, and resulted as follows:

President—J. Q. Smith; 1st Vice-Pres.—Miss L. C. Kennedy; 2nd Vice-Pres.—S. N. Black; 3rd Vice-Pres.—A. N. Draper; 4th Vice-Pres.—George Poindexter; 5th Vice-Pres.—P. J. England, Secretary—Jas. A. Stone, R. R. 4, Springfield; Treasurer—Chas. Becker.

CELLAR-WINTERING OF BEES.

"Is it best to put bees into the cellar in this latitude?"

Several said no, not if well protected.

Mr. Smith—I just take slats out of the super, cover the brood-frames with a piece of gunny, then fill the super with dry leaves, and I never lose any.

LONGER-TONGUED BEES.

Mr. Draper—"Do we need longer-tongued bees?"

Mr. Black—Yes. The reason our Italians store honey from red clover is that our soil is so worn that it does not produce clover-heads as large, with as deep cups, as it did of old.

Secretary—I think the whole cause is the energy of Italian bees, that force the cups open so that they reach the nectar just as easily in the largest heads as in the small ones. I have watched them and seen them go as readily to the largest heads as to any other.

Mr. England—I think we need longer-tongued bees.

Messrs. Smith, England and Poindexter reported good crops of honey this year.

The executive committee chose for the date of the meeting next year, the third week in November, Tuesday and Wednesday, the 18th and 19th.

On motion the convention adjourned.

JAS. A. STONE, *Sec.*

Contributed Articles.

No. 4.—APICULTURE AS A BUSINESS.

Localities With Limited Pollen Supply—Slow Flows and Effects—Why Failures Are Made, and the Far-Reaching Effects.

BY R. C. AIKIN.

I HAVE previously referred to a fact which I think is generally conceded, that alfalfa is a slow yielder of honey, and, so far as I know, I have never seen a bee with a plump pellet of alfalfa pollen. I think if bees were to depend upon alfalfa pollen they would starve, if a lack of it would starve a colony. In the matter of pollen, there is never a superabundance of it in my locality—and this is true of many other Colorado fields, and at times there is a dearth of it both in and out of the hives.

Pollen, in early spring, has much to do in the matter of building up a colony, and have them in good condition when the flow comes. Here, there is no pollen in the fields until about April 15, nor is there much, often none, in the hive, either. To supply the need, bees are greedy for anything in the nature of flour, getting into chop-feed bins, into horse feed troughs, mills and granaries, in fact wherever any floury substance is found. I have seen them raking dust out of rotten wood, sawdust, and such. Unless the matter is looked after by the apiarist, his stock is behind, and that is what happens with bee-keepers who are not apiarists.

There is also a considerable part of all the spring up to June 10 to 15 in which there is no nectar coming in. I call attention to these facts to show that it is business to look after details, more so when Nature does not provide these. To allow a colony to lie in a listless condition through the weeks just preceding a honey-flow is not business, yet there is more or less of that condition in our springs here unless obviated by the apiarist. Some writers advocate a severe letting alone in the spring, saying nothing is gained by opening of hives, feeding or manipulating. If your field has supplied plenty of pollen in the fall, and if in the early spring and generally previous to the honey-flow there is pollen and nectar coming in to stimulate breeding; and, if there is enough open comb in the right position to keep the queen fully supplied with laying-room, then there is not much gained by manipulation or feeding. It is a business matter to know the things that tend to make a success, and getting hosts of bees before the honey-flow is one of the biggest things of the business, and is not looked after by the average apiarist.

Having failed to get as many bees as might have been obtained, the flow begins with weak colonies. Supers will be put on, but work will not be begun in them, and apiarists—or rather, bee-keepers—wonder why the bees are not doing much. They are packing the brood-combs with honey, and while the queen wants to lay freely she cannot because she has no more empty comb in the brood-chamber, and they go about with sacs full of honey, secrete wax freely, start queen-cups, feed their limited amount of bro. I freely, queen lays in the queen

cups, *and so swarming conditions go on rapidly.* The colony not having become strong enough to go out freely into sections, the conditions for swarming develop the more rapidly, and much swarming and little honey results.

Let me make a contrast. Suppose a honey-flow comes with a rush, and in about 5 or 6 days the brood-chamber is full. This, with the great activity and overburdened honey-sacs, crowds the bees to the supers. It is a fact, that colonies that will not touch super-work with a slow flow, in a more rapid flow but other conditions equal, will go right into the sections. Here also is another fact, when the flow is too weak or slow to cause the colony to enter the super, a few more bees added will accomplish the result. If this be true, then we can understand how I may get a medium or fair crop when some one near me, not taking advantage of the stimulating features that may be applied to advantage in this locality, would not have any marketable honey.

I know that my part of Colorado, and some other parts, too, do have these slow, tedious honey-flows. While in the white clover and basswood regions apiarists have rapid spurts of honey-flow, in which one or more supers will be filled in as many weeks, and even very much less time, we here find our super-work going much more slowly. I find that for one flow that will fill two supers in a month, there are several that do less. I also find that a colony that swarms, and new swarms as well, do not one in five, nor more than once in five years, give me a profitable yield. Swarming colonies, to be profitable, (except to sell the increase to prospective apiarists at big prices), must be doubled, or hived in contracted brood-chambers. So true is this that I say, *emphatically*, the person paying $5 a colony for bees, and then allowing the bees to swarm *and not practicing some method of contracting or doubling colonies to get strength*, cannot make the business at all profitable.

I want to repeat and empasize, that when the honey-flow is slow and intermittent, very much more skill is required in management if one gets a fair product, both in finish and quantity. As intimated hereinbefore, as the flow is slow or weak the colonies must be of greater strength, both to get them to work in the supers at all, and to get quality and finish. A rapid, full and steady flow causes work to begin more evenly through a super, and not only to be begun, but to go on regularly and evenly; but, in contrast with this, when the flow is weak and nectar coming in slowly no matter whether the slow work is caused by a *weak colony* or a *lack of nectar*, the work is of a very irregular and unsatisfactory character. The results are so marked that in the hands of an expert apiarist these weak flows may be made to produce good, marketable honey that brings fair to good prices; while in the hands of those not learned in the science, the product, if marketable at all, must be a drug upon the market and at bottom prices.

I do not write these things to keep people from going into the business, but that when they do go in they do it more carefully and intelligently. People entering the business and upon business principles, and handling it in a way to succeed, need be no detriment to others in the business; but to rush in and fail, injures not only themselves, but others dependent upon them, and the general public, and damages very materially others in the same business. If a failure affects solely the person making it, then the good-will towards others and desire that they be kept from suffering and distress, would be the only reason why we need concern ourselves about the matter; but the person making a failure makes it harder for others, in several ways. A failure in any enterprise leaves the person failing less able to buy other products—he is less of a help in a community, because he has not money nor ability to make a community prosperous. Usually, a business failure leaves the one failing unable to pay all his bills, and these unpaid bills cripple and injure others in their business.

Just now I have in mind a man who this past summer engaged to take care of a lot of bees for my neighbor. He came to me to buy hives, and was sure he wanted 50, for, said he, "There are 50 colonies and they will all swarm at least once." He did not have the money, but would pay September 1. I suppose he intended to sell honey to pay for the hives, and had great visions of the income he was to get from those bees. The time is now six weeks past the date at which he was to pay, and payment not made. I do not think his crop of honey will pay even the expenses for supplies, while he has nothing for time and trouble, and this, too, when I persuaded him that he would best not buy more than 25 hives instead of the 50 he wanted. He did not use even the 25. I am out the cost of 25 hives. The man owes me the price of them, and has no crop to pay it out of; the little honey he has will not bring a living price in any market; and the owner of the bees gets nothing on the capital invested.

I could have handled those bees at a profit to both myself and the owner, but, handled as they were on altogether a wrong and unscientific basis, several people are the worse off because of the unbusinesslike procedure. Those bees have not profited either the owner or the manager, and they have used a part of the pasturage that would have been beneficial to me and to others.

Larimer Co., Colo.

Moving Bees Short Distances.

BY C. P. DADANT.

WOULD it be safe to move 20 colonies of bees now, or would I better wait till I pack them for winter? I have to move them only 20 feet north and 20 feet east.—JOHN T. PAITIN, Johnson Co., Iowa, October 17, 1901.

As there are many such enquiries, I will give my manner of moving bees, and the reasons for it, in more detailed form than in the private reply I gave to Mr. Paitin.

When we move our bees, we must bear in mind the instincts and habits of the worker-bees. At its first flight, out of the hive, the young bee takes a survey of its location by flying in circles slowly and carefully, evidently to examine all surrounding objects, and these first flights of young bees, which always take place early in the afternoon of a warm day, are well known to apiarists, because usually several hundred, and sometimes several thousand, bees thus take flight almost at the same hour, and their actions somewhat resemble those of the robber-bees that circle about to recognize the spot where they have found honey. But the robber-bee is restless and hurried, and to a certain extent feels ashamed and acts more or less sneakingly, while the young bees have a contented, peaceable flight, like the actions of a being whose conscience is at ease, and whom nobody pursues.

At the second flight, the young bee still looks about, but with much diminished care, as it feels more sure of its location. After that, the worker-bee strikes out like an arrow, without looking behind. Its flight is so nearly straight that the expression, "take a bee-line," is equivalent to saying, "take a straight, short course over hills and valley."

When we move our bees it is important that we should remember this. If the hives are moved during cold weather, so that before they take a flight they have had time to forget the slight disturbance; or, if we move them during warm weather so carefully that they do not realize that anything is wrong, we may very positively expect that when they issue out of the hive they will do as usual—take a bee-line without stopping to look back. If the hive has been changed in position a short distance, they will vainly seek it on the old spot, and will wear themselves out in a short time, unless one of the hives is within reasonable distance, when some bees may find it and will attract the others by the drumming of their wings. But many will get lost, and if the wrong hive is entered many will be killed.

If, on the other hand, we take pains to let the bees know that the hive is being moved, by closing up the entrance and leaving it closed quite a while after the hour when they might take flight during a fairly warm day; if we handle the hive somewhat roughly while they are thus confined, and do not release them till they have all been warned that something is wrong; if we also give them a few puffs of smoke when releasing them, and if they are enabled to take flight at once, and look over the ground, it is quite likely that the most of them will fully realize the fact that their location has been changed, and we may rely on their natural intelligence to find the spot again. And as many of the bees do not take flight at once, even after a rough shaking up, it is well to leave with them a reminder of their change of location, so that when any bee goes to the door, it may at once realize that things are not what they were. This reminder we put in the shape of a board leaned up against the hive, in front of the entrance, so that the bee may be prevented, at the start, from flying in a "bee-line," toward the fields. This obstruction, of course, causes the worker to look back and investigate, as soon as on the wing, and the new location is thus more sure of being noticed.

Yet in spite of all these precautions, some bees may hover about the old spot and insist on going into a cluster, especially if any empty hive or box is left where their home stood. Should any great number thus congregate, they may be given to one colony at night-fall, and with this colony they will be sure to remain.

But if the above-given instructions are carefully followed, no bad results need be feared. As a matter of course, this evidences the necessity of moving the bees at a time when they can still fly, and during such weather as will not be likely to chill them if they remain longer than usual on the wing, as

they are sure to do in any case, owing to the surprise that the change will cause among them.

These precautions are of more importance if the bees are carried only a few feet, than if they were taken to an entirely new location, for in the new location there is no spot to which they have been accustomed, and they are more readily induced to come back to the place whence they have issued, without seeking any other.

Now, to evidence the success of the above-given method, I quote below an extract from the second letter of the man whose enquiry led to this article:

JOHNSON CO., IOWA, NOV. 12, 1901.

MR. C. P. DADANT—DEAR SIR:—You requested me to let you know what luck I had in moving my bees according to your instructions. I received your reply October 18, and the next morning turning out beautiful, I went right to work. The first thing I did was to shut them all in, then carried them to their new stand and set them down rather roughly; I was glad they were shut in, for they made an awful fuss.

The next thing I did was to tear down everything around their old location that I possibly could, after which I put boards, saw-horse, washtubs and limbs of trees, or any old thing I could lay hands on, in front of the hives on the new stand, and kept them shut in until noon, then let them out. The first colony started out too lively for me, so I concluded to smoke the rest, and it was just the thing, for it made them hang around better even than the first colony. I watched them until sundown, and a few went to the old stand, but I don't believe I lost a dozen bees out of my 20 colonies..... I am just through reading the American Bee Journal, Vols. 1883 to 1897, which were given me, and I think I must have this paper, for I got more information out of those I have been reading than I ever would out of books, for out of books I get one man's idea, while out of a good paper I get the ideas of many writers.

Yours truly, JOHN T. PAITIN.

This letter is conclusive as to the method I recommend. It has been tried many times, but the latest testimony is always the best. Hancock Co., Ill.

Swarming—Eucalyptus Trees—Balling Queens.

BY DR. E. GALLUP.

THE remarks of Mr. E. E. Hasty, on page 633, seem to call for something more from me. I had to cut down four eucalyptus trees and move three colonies—one 12 feet, one 25, and one 33. The first two I shook into the clustering box early in the morning, before the bees were out to work; the last was a very strong colony, and I did not get to work with it until afternoon, consequently a strong force was out in the field. Of the first two, not a bee went back to the old stand; the other kept coming in until nearly night, but I leaned the em ty clustering-box against the fence, and the bees hazed about, finally clustering in it, when I carried them to the new stand and shook them in front of their hive; the following day not over half a dozen bees returned to the old stand. It was a novel sight to see from two to three quarts of bees together, and nearly every one loaded with different-colored pollen.

THE EUCALYPTUS TREE.

Now, a little about the eucalyptus tree. Eight years ago last July I set out 80 small seedlings, and now one of the four we cut into stove-wood measured 21 inches across the stump, 12 inches from the ground, the tree measuring 80 feet in length. The eucalyptus blossoms from December to March, so the bees are humming on it all winter. I have often wondered why bee-keepers do not plant a grove near their apiaries. They are self-irrigating after the first season, as the leaves condense the moisture from the atmosphere at night, and one often sees puddles of good size under the trees in the morning. My trees have never been irrigated, except a few wettings with a pail the first season, soon after they were set out. Eucalyptus makes the best of fire-wood, and if cut in the winter the stumps send up sprouts from 8 to 15 feet in length the first season. The leaves and twigs make the finest kind of kindling for starting a fire.

MIXED SWARMS BALLING QUEENS.

Mr. Hasty may be right about a lean honey-flow, but I have succeeded here and in Iowa, and will give my experience.

In Ventura County, early one morning, a large prime swarm issued and clustered in a big live-oak tree. I cut the limb and let it down to within four or five feet of the ground and fastened it there. I then shook the bees into a clustering box and carried them to a hive; while doing this, out came an after-swarm and clustered on the same branch. Well, I soon had fun enough, for I had 14 or 16 (I have forgotten which, it is so long ago) swarms come out, and sometimes three or four after-swarms were in the air at once. They all clustered on the same branch, but as soon as I would see a great rush to the cluster I would shake them into the box, and from that into a hive placed on the cover, and then closed the hive with a quilt or blanket to keep out the swarming bees. After the seance was over, I had a tremendous pile of bees. I shook them into a large clustering-box and then uncovered the swarms to see if they had queens; I found them all right and quiet except one.

In the clustering-box I found a balled queen rolled down to the bottom end of the box. I took a long-handled one-quart dipper (which, with me, is one of the necessary implements about an apiary), scooped up the balled queen, filled the dipper with bees from the lower part of the cluster, and carried them to the queenless swarm; I poured them down at the entrance and ran them in.

The next performance was to examine every swarm, adjust the frames, and see which needed more bees. Some had plenty and some were quite small in numbers. The next performance was to get bees from the large cluster and equalize things. To avoid getting the queen I would dip from the lower part of the cluster, as the queen almost invariably keeps near the top. I am positive about this from actual experience in, I might say, hundreds of cases. I scooped them up with the dipper into a small box so as to know how many I wanted, by measure, to equalize each swarm. I then carried them to the hive and poured them down at the entrance. After the equalizing was done I hived the balance, taking care that the queen ran in with the bees, and so knew that all was right thus far.

The next operation was to insert a frame containing eggs and unsealed larvæ in each colony; so if any queen is lost on her wedding-flight we can soon tell by their starting queen-cells—I found cells started in one colony the sixth day.

Now, Mr. Hasty, if you know of a case of bees being more mixed than in the above, please "Gallup" it out. In all my experience, I can recall but two cases where they may have killed their last queen by balling, and in both of these cases they might have been lost on their wedding-flight. At all events, I found no dead queens in front of the hives, which we can almost invariably find in a clean yard, if we look carefully. You will also notice that I shook that balled queen mentioned above right down in front of the hive, without taking the trouble to liberate her. The bees were run into a hive without combs and no other queen. It is a ground-hog case with them, and they seem to realize it almost instantly.

Now, what are you going to do about it?

Orange Co., Calif.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Rearing the Best Queens.

Can we not get a long-tongue bee, healthy bee, ambitious worker—and all of these considered good and useful qualities—by some one that can control the mating fairly well? Breed, or mate, the queen with the drone from her sister worker? It looks to me as if there would be a gain of at least one-half of a bee-generation, in the preservation of the good qualities of the workers. OHIO.

ANSWER.—The project of having some one make a business of rearing queens on a large scale in something like the way you mention has had some consideration; but as yet nothing has come of it. It is true, however, that some able men are engaged in rearing queens which they are trying to bring up to the requirements you mention, and there is constantly approach to the highest standard being made.

Starting With Bees.

I would like directions for a beginner to start with bees in the spring, in northern Illinois. I know nothing about bees. How should I proceed in order to insure the best success. Please give explicit directions. I. G. NORANCE.

ANSWER.—I don't know. I'd give a good deal if I did. I've been trying for years to learn just what is the very best way to do to insure success, but I'm not always sure of success. Sometimes the season is so bad that I can lay my failure en-

tirely at its door. Sometimes I get a notion that some new way will be an improvement, and it turns out so poorly that I wish I hadn't tried it on so large a scale. But I'll tell you just what I think I would do if I were to begin all over again.

The first thing I would do would be to get a good text-book and study it with care. In that you ought to find much or all of the "explicit directions" you ask for. Then if you expect to go into bee-keeping somewhat extensively it will be well to get another text-book and study that. Also read with interest what you find given weekly in the American Bee Journal, and perhaps in other journals. Thus you can spend a very profitable winter, and at the opening of spring be much better prepared to care for your bees than you are now. In the course of your readings you will find some things hard for you to understand. After you have puzzled over them a reasonable length of time, write for answer in this department. Don't be afraid to ask questions. That's what this department's for. But there are two kinds of questions that may be well for you to steer clear of.

One kind of questions to avoid is the kind that you find fully answered in every text-book. Such, for instance, as: "Do the drones lay eggs?" "How long is it from the time the egg is laid till the young worker hatches out?"

The other kind of questions to avoid is the kind that is too comprehensive, including those that expect an answer without giving particulars. In this category would come the question: "Give explicit directions for getting a big crop of extracted honey." "What is the reason my bees stored no honey this year?"

Then when spring opens up, and you begin work with the bees, keep referring to your text-book, and keep asking questions. I'll try and find answers for all that are not too hard.

Moving Bees in Winter.

I expect to move 150 miles west about December 20, and want to take my 45 colonies of bees. I expect to charter a car. Can they be moved successfully at that time? IOWA.

ANSWER.—Something depends on the weather. If it should be exceedingly cold, the combs will be brittle, and there will be danger that some combs may be broken. I can give you little light additional to what you find in the books, the chief points to look after being: To have the frames stationary in the car: to have plenty of ventilation (although much less ventilation is needed than in hot weather); and to see that the hives are loaded into the car so that the ends of the frames point toward the engine.

Wintering Bees in the Cellar.

I put 36 colonies of bees in the cellar this fall, raising them one inch from the bottom-board. I put burlap over the frames, and supers without the slats, filling them with chaff. For ventilation I left the covers off. Is this a good way?
WISCONSIN.

ANSWER. — The preparation you have described is all right, and is a good deal more preparation than many feel necessary, for bees will winter well with the covers sealed on when there is plenty of opening below. Read carefully what your bee book says about temperature and ventilation of the cellar.

Feeding Bees.

When, what and how can I feed my bees? I have two colonies of Italians, and have had them about eight months. I get lots of information from the American Bee Journal, but it seems to be for advanced bee-keepers. MISSOURI.

ANSWER.—This department has its field and its limitations, and it is not hard to account for the fact that some things will not be found in it, nor indeed in any part of the Journal. There are some things—many things—which *every* bee-keeper should know when he enters the business. If these things were told in these pages, it would take several numbers, without leaving room for anything else. By the time they were all told a new set of subscribers would want them begun over again, and as new subscribers are coming in all the time the American Bee Jounal would be entirely occupied printing over and over again the same things. To avoid this, instruction books or text-books on bee-keeping have been published, and one of the first things for a beginner in bee-keeping to do is to get one of these text books and become familiar with its contents. After he has done this he will find plenty of questions still that he would like to ask, and the very fact that there is no need to repeat the things in the text-book makes it possible to answer more full upon any point not fully treated in the text-book.

Upon consulting your text-book you will find that the best time to feed bees is much earlier in the year than December: and that the best thing to use for feed is combs of sealed honey; and the best way to feed these is to put them directly in the brood-chamber, in or close to the cluster of bees. Of course, much minute information is also given, which would occupy pages, and after you have studied it all carefully it is quite possible you may desire light upon some point not given, and these columns are freely open to answer any further questions you may have. If your bees do not have enough to carry them through the winter, combs of sealed honey may be yet given, the next best thing being candy.

The Home Circle.

Conducted by Prof. A. J. Cook, Claremont, Calif.

KINDNESS AND TRUST.

It was a blessed hour. It was a good day. Where? At the Bible class. One felt lifted up. The good words spoken, the impulses felt, the resolves felt but unspoken, came like an inspiration to the nearly two score in that class. Dear friends of the home circles, do you enjoy such hours, such days, such times of precious uplift? I covet for all of you the very best gifts, and none more than that these so wholesome and so precious Bible study hours may make in your lives the best sympathy, love and trust.

It was our last hour with the great Joseph. And wasn't he great? He could bravely push away temptation, and have none of that bitterest grief of yielding to wrong impulse. He could fill a life of bitterest trial and misfortune in most useful work, so that a prison became an opportunity. Work and sympathy for others are good and probable companions. Of course, he made friends of all whose lives he touched. Worked on ability, and kindliness of heart, which grew and ripened fast with much of exercise, made him touch with blessings great and many all such lives.

Best of all, Joseph was great enough to forgive the sorest and most grievous wrongs, and by kindness he strove to bury the memory of the evils in the thought of those who wrought them. The full forgiveness was more to those brothers whose murderous thoughts and deeds struck so cruelly at this splendid brother, than was the corn of the full granaries of Egypt. That only fed the bodily life; the other, the spiritual; and the brothers were all saved to work evil no more.

Sunday we discussed the problems of kindness to evil-doers, and the great power of trust and confidence. Joseph gives one of the most glorious examples in history of kindness to those, his brethren, too, who had raised the murderous hand against him. And the results, as always, proved the glory of such conduct. We rightly expect the best love, sympathy, and appreciation from our brothers and sisters. Failure in this usually works havoc. The one wronged feels bitter, strikes back harder blows, if he may; and that worst—the family feud—blackens history's page. Joseph struck no blow, but overcame evil with good. It was a proud day for the world when he, in its full view, set this grand example. Christ did more gloriously. He breathed that marvelous prayer of forgiveness, with far worse evils heaped upon him; and when death—their awful fruitage—was pushing life from his poor, suffering body.

How well for us all to read—oh, so often—until it is firmly lodged in memory's pages, those last words of that best of chapters of the best of books—Matthew 5th. The thief steals our coat; we must give him our cloak. We must have the impulse not to crush, not to curse, but to enfold in Kindness' arms, and to bless with sympathy and love. Why is "Les Miserables"—Victor Hugo's great novel—the greatest ever penned? Only because it reveals the power of kindness and love to waken manhood, and to save a life from sin and give it to God. The bishop, by his great heart of love, which could only sympathize and desire to help the poor convict who had suffered such terrible and multiplied wrongs, won a great soul back to virtue and to God.

I like to read those last verses of Romans 12th. Paul was a master soul. That whole chapter is grand: the last

verses urge grandly to just this blessed life of forgiveness. I wish all the children of our great country might learn the great sermon, which was spoken from the Mount. As also Romans 12th, and 1st Corinthians 13th. The last is our college chapter here at Pomona College. If we could all learn those chapters, and catch practically their spirit, how quickly we would solve not only the question of anarchy, but of all sin and evil.

One in our large class said, "Be kind when the desire to be forgiven was shown." I did not admire his words or spirit when he replied to the question, "What will bring the sorrow for sin and a right repentance so quickly as to be enfolded in the arms of love"—"I might put one arm about a wrong-doer, but I would keep the other ready for other and possibly wiser use." This remark leads to our second topic—

TRUST AND CONFIDENCE.

If we are suspicious, as voiced in the arm ready to strike, we shall never win. If we trust our children; our students, if we are teachers; our neighbors; if we show a kindly confidence we will find them slow to betray such trust. We must keep the confidence of all these; we can not expect what we do not give.

Jacob died. The brothers remembered their grievous offense—their awful sin toward Joseph—they were afraid. With no occasion they suspected Joseph. He was full of sadness. Is there one thing in this world that saddens like the lack of trust, confidence, and belief in one's integrity of purpose from those we love? In age such a sorrow would press hardest. And so Joseph met life's evening hour with a real heart burden. What a woeful arraignment of evil! It companions with distrust and suspicion, and thus it weights heavily even the best and truest friend.

SPORTS.

To-day our college is to meet on the football field the Indians—a very noted band of redskins who can play football. For years we have not lost a game. Last year we met this same team and vanquished them with a score of 16 to 0. This year we are stronger, yet we are not sure. "When ye think ye stand, take heed lest ye fall." Last night we all—students and faculty—held in the gymnasium a meeting to arouse enthusiasm, and give courage to the team, whom we all believe in. We know they have practiced hard. We expect they will be victors. The team expects to win; the coach knows they will; we all feel confident. Even the girls are keenly appreciative of good, hard, honest work, as a bright, witty speech from one last evening evinced.

A professor spoke. He showed that one ought never to become so old that he would not find play-sport a pleasure. He said: "We wish you to be defeated when a rival from harder, truer work has won a right to victory." All applauded, but the cheers rang out with merrier, louder note when he added, "but we do not expect defeat. Your hard, telling work makes us all very expectant."

We all encourage the games, and all pure, honest athletic sports. None who do not reach high grade in studies can take part in the games. We believe these contests are good and helpful, and that they make better, stronger men.

IS PERFECTION DEMANDED OR EXPECTED?

I have received the following from one of the American Bee Journal subscribers, for reply in this department:

On page 682, Prof. Cook, in discussing the matter of voting the prohibition ticket, says: "God does not demand perfection in any of us. 'Only one, your Father in heaven, is perfect.'" I do not know who is the author of the words quoted by Prof. Cook, and I do not undertake to dispute them, but I do know that it was the great Preacher in his sermon on the mount who said: "Be ye therefore perfect, even as your Father which is in heaven is perfect," and I have always had a feeling that nothing short of perfection on my part would be entirely satisfactory. In my efforts at perfection I have not made an entire success, so it will be something of a relief if a let-up in my efforts is allowable. What I want Prof. Cook to tell me is, just how much short of perfection is demanded of me. If I understand him correctly I am not required to do *all* I can to kill the saloon, but may stop short of voting against it. But I would like to know whether the requirement comes so near perfection that it will prevent me from taking a glass now and then. IMPERFECTION.

I am glad "Imperfection" makes these inquiries. His very name shows that he sympathizes with my position. One said to Christ, "Good Master." He answered, Call not me good. Only one is good, your Father in heaven. Yet, this same blessed Savior said, "Be ye perfect even as your Father in heaven is perfect." I hope I am wrong, but from my own experience from Paul's words—"When I would do good, evil is present with me;" from all my observation from the whole trend of the Scriptures, I am led to question the possibility of a perfect life in this world. Did not Christ, in his "Be ye perfect," mean to give us this as the ideal? Maybe very late in life, just at the margin of the river, some are so happy as to reach this ideal. I trow, however, that it only comes as we reach the other side.

Are we not happier as we strive harder to reach the ideal? To let go this effort would only mean less of joy, less of satisfaction. "Imperfection" would find no relief in any abatement of effort. Our joy doesn't come that way.

Ah, my friend! you did misunderstand me greatly. You—we all—are required to do all in our power to kill the saloon, and any other damnable evil. But it is not my duty to condemn you if your method and mine are not the same. If all the good and the true are in the Prohibition party, then, surely, we are in sorry plight. I do not believe all the wisdom is there. Does "Imperfection?"

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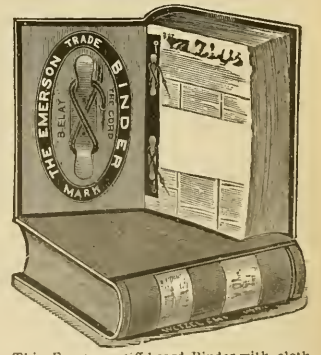

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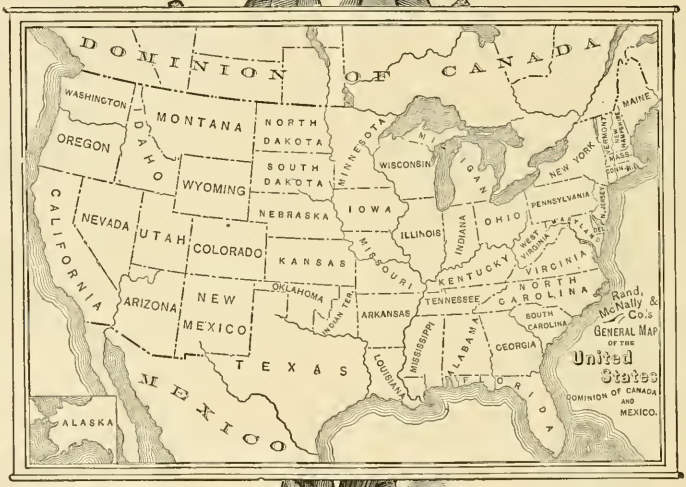

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GENERAL ITEMS

He Did Quite Well.

I started in the bee-business last spring, and got 1700 pounds of as nice alfalfa comb honey as any one ever saw. I have 65 colonies, all in 8-frame hives. I transferred all but 15 last spring. It was very cold here the forepart of the season, and no honey until the second crop of alfalfa, so I think I have done quite well. W. H. ROSEBROOK.

Siskiyou Co., Calif., Dec. 5.

Muslin Hive-Cover.

I have watched the discussions on hive-covers with much interest, and I thought some one would report in favor of a cover I am using. So far no one has, so I will describe what I am using in northern Wisconsin.

The cover consists of a rim 1x2 inches, enough larger to slip over the top of the hive easily. This rim is covered with poor lumber, dressed both sides. After a coat of cheap paint has been put on, a sheet of cheap muslin is nailed over it with 4-ounce tacks, when enough paint is put on to close all pores in the cloth. This cover lasts from five to seven years without any further attention, after which time it should be repainted. An extra cover is needed to keep the bees out of the cover. For this purpose I use two boards running lengthwise of the hive. The cover is kept a half inch from these boards by a rim of 1x1 inch cleats. This cover neither warps nor twists, is cheap, warm in spring, cool in the hot sun, and almost any one can make it. The inside cover (I call it a honey-board) should be made of cedar, or cork where it can be gotten, as pine will warp, due to the dampness from the bees. They can be kept straight, however, by turning over from time to time. I have used wood, tin, steel and paper, but cloth beats them all for this country. I have hundreds of discarded covers of all descriptions lying around.

A. C. F. BARTZ.

Chippewa Co., Wis., Nov. 29.

An Alabama Report.

I have kept bees for 20 years, but never used the frame hive till last year. There was but one up-to-date bee-keeper here—a Dr. Tidmore. Since his death last year I have kept his bees on shares, running for extracted honey. Last year I got an average of about 60 pounds per colony, running as high as 120 pounds, and as low as 12 to 24. The past season was one of the worst I have known. The spring was too cold, and April is our

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main honey month. I had but a few colonies, and about one-fourth as much honey as the previous season. I have some black, some hybrid, one Italian, and two Carniolan colonies. The blacks gave me no surplus at all. I bought an Italian queen last year, and that colony produced three or four times as much honey as any of the rest, with the exception of five or six out of about 80 colonies. They gathered some honey nearly as bright as castor-oil; I never saw any like it before, and do not know what they gathered it from.

Most of my bees spent the season rearing queens, I think. I, for one, do not want my queens clipped. I am a farmer, and can not be here all the time. If the queen can fly they will settle and wait till I come home. If they are clipped they will come out and go back before I can get there. I lose one now and then, but I like them to be able to fly.

I have just read Mr. A. E. Isaac's report in the American Bee Journal for Nov. 21, in which he mentions his honey having a sour smell. I notice it here every year, I think, but I do not know what causes it. Bees gather bitter honey here nearly every fall, but none of mine ever candies.

Several bee-keepers have asked Dr. Miller about late drones this fall. My bees reared a lot of them very late. I think it was because they had a very good flow of bitter honey.

This is my first year with Carniolan bees, and I do not know whether I will like them or not. I bought an Italian queen last summer, and she seemed to be all right until a few days ago, when I missed her, and found several sealed queen-cells. But it is too late for them to rear one.

I think the staple-spaced frame is the best here. We have too much sweet-gum for any other.

Mr. Brown, in speaking of Mr. Gerold's loss by melting down, said that if he will raise his hives on benches, and put a roof over them, he will have a comfortable hall for his bees. I had part of mine on a small pole on the ground, in the hot sun. It was 100 to 108 degrees the past summer. I used an inch plank on the hive, and an inch one on top of that, and they came through all right.

My bees are in very good shape for winter.

Hale Co., Ala., Nov. 28. J. S. PATTON.

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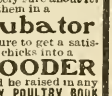

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Growing Pepper-Trees in Illinois.

I have some pepper-trees growing in a box; the seed was sent to me last winter by a friend in California. When I work and water them I think of Prof. Cook. I make trees my companions, and I will take these with me to Florida, to see if they will flourish there.

MRS. L. HARRISON.

Peoria Co., Ill., Dec. 9.

Report for 1901—Hive-Covers.

I harvested 2150 pounds of honey, 400 being extracted. The buckwheat crop was short on account of rain. I packed 97 colonies for winter, having introduced 16 new queens this fall. My honey was all sold three weeks ago,

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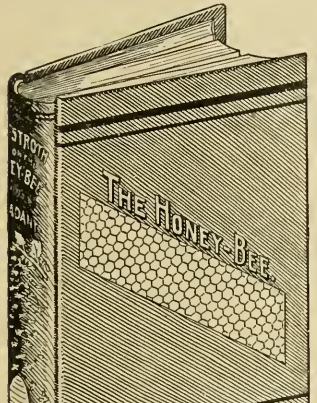

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47—50A3t

and I am still getting orders for more, and I didn't have to advertise, either. I was out on the mountains last week on a hunt, and shot a very fine doe that weighed, dressed, 103 pounds. It was the first deer I ever saw, and I shot it from a distance of 112 yards.

I have seen so much discussion about roofs of late that I would like to say a word about covers. There is no flat cover in this country that will stand without warping or checking. I cover all my gable covers with red roofing paper and paint them. I make the gable covers by taking a 6-inch board for the ends, then cover with shingles and paint, for the flat top; I then put the roof on over that flat cover, allowing it to extend two inches at the ends and sides. My colonies are always dry and nice. They are cooler in summer and warmer in winter, and the cost is only a trifle.
Clearfield Co., Pa. G. W. BELL.

Yellow Sweet Clover—Sainfoin.

I tried a very small quantity of yellow sweet clover seed sent out for the first time two years ago, but I have since left the part of the country I was then in. I found the seed all it was recommended to be, coming into bloom on June 10, so that the bees would work on it, and with the help of white sweet

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W Chester, Pa.

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World-wide reputation. 75 cts. each; 6 for $4.00.
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and our world's best outfit you are absolute master of the situation. Insects and disease fall before this all conquering outfit. See the book. It is free. Write for it now.
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Catnip Seed Free!

We have a small quantity of Catnip Seed which we wish to offer our readers. Some consider catnip one of the greatest of honey-yielders. We will mail to one of our regular subscribers **one ounce** of the seed for sending us ONE NEW subscriber to the American Bee Journal for a year with $1.00; or will mail to any one an ounce of the seed and the American Bee Journal one year—both for $1.30; or will mail an ounce of the seed alone for 35 cents.

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BEE-BOOKS

SENT POSTPAID BY
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Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condensed treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. 30 cts.

Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. Price, 10 cts.

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Capons and Caponizing, by Dr. Sawyer, Fanny Field, and others.—Illustrated. All about caponizing fowls, and thus how to make the most money in poultry-raising. 64 pages. Price, 20c.

Our Poultry Doctor, or Health in the Poultry Yard and How to Cure Sick Fowls, by Fanny Field.—Everything about Poultry Diseases and their Cure. 64 pages. Price, 20 cents.

Poultry for Market and Poultry for Profit, by Fanny Field.—Tells everything about Poultry Business. 64 pages. Price, 20 cents.

GREIDER'S FINE CATALOGUE of prize winning poultry for 1902, printed in colors, illustrates and describes 50 Varieties of Poultry; gives reasonable prices of eggs and stock. Many plate to poultry raisers. Send 10c in silver or stamps for this noted book. H. H. GREIDER, Florin, Pa.
51D8t Mention the American Bee Journal.

clover, which bloomed well into September, there was nothing left to wish for. I find that cattle and horses will eat sweet clover greedily where pasturage is scarce, both as pasture and as hay. I made one experiment that satisfied me that it is all right. A few good-sized armfuls of sweet clover had been cut and allowed to lie on the ground about three days. I picked it up and threw it to a neighbor's cows. I then got a dish of water and put a handful of salt into it, then sprinkled the clover with the salted water. Those cows, with pasture all around them, devoured the sweet clover (it had stood from 4 to 6 feet high before cutting, with stalks half an inch thick) just as greedily as the finest hay. Yet I have seen sweet clover in a field, with cattle running at liberty, stand unmolested, and attain a growth of six feet, while in a neighboring field it was eaten to the ground, scarcely getting a chance to blossom and seed.

For myself, I think the American Bee Journal did a great kindness in introducing this yellow sweet clover to the notice of bee-keepers.

I would like to know if any one has made an extended trial with sainfoin, esparcette, or holy hay (it bears all three names), Mr. Dadant mentions it in one of his contributions to the American Bee Journal as being quite productive of honey in France. I tried it last year; it came up nicely, and the young clover plants looked like little branches of the black locust with their leaves

PAGE

IF IT'S MADE

in a better way, and of better material, as it really is, then you can see how it has become so popular. PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

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Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let every body try for it. Will YOU have one?

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NO ODOR! NO SMOKE! NO ASHES!

Costs only a cent an hour to run it.

The editor of the American Bee Journal is using the "Barler Ideal" Oil Heater, and it is all right in every way. We liked it so well that we wanted our readers to have it too, so we have recently arranged with its manufacturers to fill our orders. The picture shown herewith is the one we recommend for general use. It is a perfect gem of a stove for heating dining-rooms, bed-rooms, and bath-rooms. It hinges back in a substantial way, and is thoroly well made thruout. The urn removes for heating water. The brass fount, or well, has a bail, and holds nearly one gallon of kerosene oil. It is just as safe as an ordinary lamp. You wouldn't be without it for twice its cost, after once having one of these stoves. Most oil-stoves emit an offensive odor, but this one doesn't. Its hight is 2¼ feet, and weighs 20 pounds, or 30 pounds crated ready for shipment, either by freight or express.

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If you want something that is really serviceable, reliable, and thoroly comfortable, you should get this "Barler Ideal" Oil Stove, as it can easily be carried by any woman from one room to another, and thus have all the heat you want right where you want it.

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Mr. B. H. Greider, the well-known poultryman of Florin, Pa., a regular advertiser with us, is breeding 50 varieties of poultry to a very high standard of excellence. Mr. Greider's catalog for the year 1902 is now ready for distribution. It is one of the best books of its kind, and is beautifully illustrated in colors. It describes all his varieties of prize-winning poultry, and gives a great deal of interesting and valuable information on poultry topics. It is worth a great deal more than the ten cents in silver or stamps asked for it. Address, B. H. Greider, Florin, Pa., and mention the American Bee Journal when writing.

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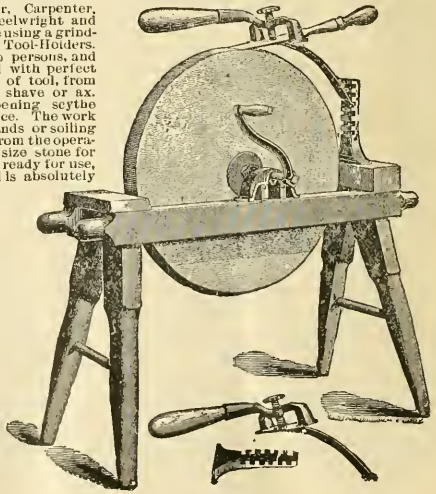
Every Manufacturer, Miller, Carpenter, Cabinet Maker, Machinist, Wheelwright and Quarryman, Farmer, or any one using a grindstone, should have one of these Tool-Holders. One boy can do the work of two persons, and grind much faster, easier and with perfect accuracy. Will hold any kind of tool, from the smallest chisel to a draw shave or ax. Extra attachment for sharpening scythe blades included in the above price. The work is done without wetting the hands or soiling the clothes, as the water flows from the operator. It can be attached to any size stone for hand or steam power, is always ready for use, nothing to get out of order, and is absolutely worth **100 times its cost.**

No farm is well-equipped unless it has a Tool-Holder. Pays for itself in a short time.



How to Use the Holder.

DIRECTIONS.—The Tool is fastened securely in the Holder by a set-screw and can be ground to any desired bevel by inserting the arm of the Holder into a higher or lower notch of the standard. While turning the crank with the right hand, the left rests on an steadies the Holder; the Tool is moved to the right or left across the stone, or examined while grinding, as readily and in the same way as if held in the hands.

For grinding **Round-Edge Tools,** the holes in the standard are used instead of the notches.

on. I did not get a chance to see it blossom, for the greedy grasshoppers eagerly cleared it off the ground; but, if spared, I will try it again the coming year, and perhaps be able to beat the grasshoppers. I can get sainfoin seed from seedmen in this country; it is very peculiarly shaped, being about the size of four sweet clover seeds with the hulls on, and in shape it is exactly like a small black bean, and inclosed in a large flat hull.

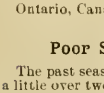
W. D. HARRIS.

Ontario, Canada, Dec. 5.

Poor Season for Honey.

The past season was a very poor one; I got a little over two tons of honey from 111 colonies. Some did not get anything. It is raining to-night, and there has not been enough frost to hurt bean vines, so far. We have had some fog and plenty of rain. The farmers in this vicinity cut their alfalfa before it bloomed, which cut the honey crop short.

Kings Co. Calif., Dec. 5. B. P. SHIRK.



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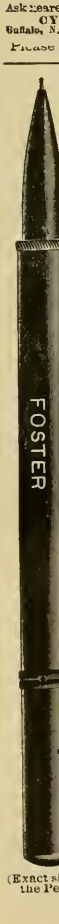

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This pen consists of a **hard rubber** holder, tapering to a **round point**, and writes as smoothly as a lead-pencil. The **point** and **needle** of the pen are made of **platina**, alloyed with **iridium**—substances of great durability which are not affected by the action of any kind of ink.

They hold sufficient ink to write 10,000 words, and **do not leak or blot.**

As they make a line of **uniform width** at all times they are **unequaled for ruling purposes.**

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CONVENTION NOTICES.

Wisconsin.—The Wisconsin State Bee-Keepers' Association will hold its annual convention in the State Capitol, at Madison, Feb. 5 and 6, 1902. This promises to be a large convention. All are invited to attend. There will be excursion rates of 1½ fare for the round-trip, good for all of the first week in February.

N. E. FRANCE, Pres. ADA L. PICKARD, Sec.

Michigan.—The Michigan State Bee-Keepers' Association will meet in convention at Petoskey, Jan. 1 and 2, 1902. This promises to be the most largely attended meeting of the Association in years. You are invited to attend. Reduced rates on all railroads; tickets can be bought Dec. 30 and Jan. 1, good to return not later than Jan. 4. There will be no set program, but another of our "open congress" meetings. Those who have attended in the past know what that means, and those that don't should come and find out. A novel design for badge has been ordered in honor of "Petoskey."

GEO. E. HILTON, Pres.

California.—The California State Bee-Keepers' Association will hold its annual convention in the Chamber of Commerce, Los Angeles, Jan. 15 and 16, 1902. We will try to have a good program. Come and exchange your bright ideas with your neighbors, and get some of the moss rubbed off your back. J. F. MCINTYRE, Sec.

G. S. STUBBLEFIELD, Pres.

Wanted Comb and Extracted Honey!
State price, kind and quantity.
R. A. BURNETT, 199 Water St., CHICAGO
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Wanted—Honey.
Car Lots or otherwise; will pay highest market price, spot cash. Address, stating quantity, quality, and price desired at your station. Will send man to receive when lot is large enough to justify. THOS. C. STANLEY & SON,
31Atf FAIRFIELD, ILL.

Wanted Comb Honey and Beeswax. State price delivered in Cincinnati.
G. H. W. WEBER,
43Atf 2146-2148 Central Ave., CINCINNATI, O.

The Sure Hatch.—We are in receipt of the Sure Hatch Incubator Company's fifth annual catalog. It is a book of some 166 pages, over 200 illustrations, and contains a vast amount of poultry information plans for poultry-houses, yards, etc., chapters on practical poultry-raising, and how to make money on a small investment, etc. Look up their ad. on another page, and write them, and mention that you saw their ad. in the American Bee Journal.

Rocky Mountain Bee-Plant Seed!
(*Cleome integrifolia.*)
...FREE AS A PREMIUM...

The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows fromtwo to three feet in hight and bears large, clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us ONE NEW subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.

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THE NICKEL PLATE ROAD
will sell tickets Dec. 24, 25 and 31, 1901, and Jan. 1, 1902, at rate of a fare and a third for the round-trip to any point located in Central Passenger Association territory, account Christmas and New Year Holidays. Return limit including Jan. 2 1902. Through service to New York City, Boston, and other Eastern points. Chicago Passenger Station, Van Buren St. and Pacific Ave., on the Elevated Loop. For further information address John Y. Calahan, General Agent, 111 Adams St., Chicago. 46—49A4t

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Dec. 7.—The honey market is of a slow nature with little change in price of any of the grades. At this season of the year many of the retailers have laid in a supply sufficient to carry them over the holidays. Choice grades of white comb honey, 14½@15c; good to fancy, 13½@14c; light ambers, 12½@13c; dark grades, including buckwheat, 10@12c. Extracted, white, 5½@7c; amber, 5½@5¾c; dark, 5@5¼c; the scale of prices varying according to flavor, body and package. Beeswax steady at 28c.

R. A. BURNETT & CO.

NEW YORK, Dec. 9.—Comb honey continues to be in good demand, and while the market is not overstocked, arrivals of white honey are sufficiently large to meet the demand, while buckwheat is rather scarce. We quote: Fancy white, 15c; No. 1, 14c; No. 2, 12@13c; and buckwheat, from 10@12c. Extracted remains dull and inactive with plenty of supply of all kinds. In order to move round lots, it is even necessary to shade the quotations, which are: White, 6@6½c; amber, 5½@6c; dark, 5@5½c; Southern, 55@60c gallon, according to quality. Beeswax firm at 28c. HILDRETH & SEGELKEN.

CINCINNATI, Oct. 25.—The honey market is rather dull on account of the warm weather. Extracted sells only to manufacturers from 5@6c; better grades alfalfa water-white from 6@7c; white clover from 8@9c. Fancy white comb honey sells from 13½@15½c.

C. H. W. WEBER.

ALBANY, N. Y., Oct. 25.—Honey in good demand now, as this is the most satisfactory time to sell. Grocerymen are stocking up and will buy lines, when late they only buy enough to piece out. Fancy white comb, 15@16c; mixed, 14@15c; buckwheat, 12@13c. Extracted, white, 6½@7½c; mixed, 6@6½c. H. R. WRIGHT.

OMAHA, Oct. 25.—New comb honey is arriving by express in small quantities from Iowa and Colorado, and selling at $3.50 per case in a retail way. California extracted honey is being offered carlots at 4½@4¾c per pound, f.o.b. California shipping-points, but we have not heard of any sales having been made thus far. The production of extracted honey seems to be quite large this year in Colorado, Utah and California. PEYCKE BROS.

BOSTON, Nov. 20.—The demand for honey is easing up, somewhat due in part to the holiday season at which time it is much neglected.

Our market at the present time runs 16c for strictly fancy in cartons; No. 1, 14@15c; No. 2, 12½@13c. Extracted, light amber, 7½@8½c; amber, 7c. BLAKE, SCOTT & LEE.

DES MOINES, Oct. 25.—There is very little doing here in new crop of honey. Some small lots of near-by produced comb honey are on the market and selling in a retail way at $3.50 to $3.75 per case. We do not look for much trade in this line before Sept. 1. Our market does not consume a great deal of extracted honey.

PEYCKE BROS. & CHANEY.

DETROIT, Oct. 25.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.

M. H. HUNT & SON.

SAN FRANCISCO, Nov. 28.— White comb, 11@12½ cents; amber, 8@10c; dark, 6@7 cents. Extracted, white, 5½@6c; light amber, 4½@5c; amber, 4@—. Beeswax, 26@28c.

Not much doing in this center, but there are no large stocks here of any description, and current values are being, as a rule, well maintained. There is more moving outward at present from southern producing points than from here. Some apiarists are reported holding back supplies, anticipating better prices in the spring.

KANSAS CITY, Oct. 25.—Up to the present time only small lots of new comb honey have been on the market, and these met with ready sale on the basis of 15@16c per pound for fancy white. For next week heavier receipts are expected and quotations are issued at $3.10@$3.25 per case for large lots, which would be equal to about 14@14½c; the demand being quite brisk, a firm market is anticipated. Inquiries for extracted are a little more numerous, but large buyers still seem to have their ideas too low. In a small way 5½@6c is quotable.

PEYCKE BROS.

Send for circulars regarding the oldes and most improved and original Bingham Bee-Smoker
FOR 23 YEARS THE BEST ON EARTH.
25Atf T. F. BINGHAM, Farwell, Mich.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

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OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

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☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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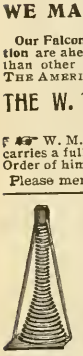

Queen-Clipping Device Free....

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

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A New Bee-Keeper's Song—

"Buckwheat Cakes and Honey"

Words by EUGENE SECOR.
Music by GEORGE W. YORK.

This song was written specially for the Buffalo convention, and was sung there. It is written for organ or piano, as have been all the songs written for bee-keepers. Every home should have a copy of it, as well as a copy of

"THE HUM OF THE BEES in the APPLE-TREE BLOOM"

Written by
EUGENE SECOR and DR. C. C. MILLER.

PRICES—Either song will be mailed for 10 cents (stamps or silver), or both for only 15 cents. Or, for $1.00 *strictly in advance* payment of a year's subscription to the American Bee Journal, we will mail both of these songs free, *if asked for*.

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PATENT WEED-PROCESS SHEETING.

Why does it sell so well? ✲✲

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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., DECEMBER 26, 1901.

FORTY-FIRST YEAR
No. 52.

WEEKLY

APIARY OF R. WHEELER, OF ALAMEDA CO., CALIF.
(See page 820.)

THE AMERICAN BEE JOURNAL.

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

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EDITORIAL STAFF.

GEORGE W. YORK, - - Editor-in-Chief.

DR. C. C. MILLER, E. E. HASTY, PROF. A. J. COOK, } Department Editors.

IMPORTANT NOTICES.

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

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OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

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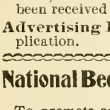
A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

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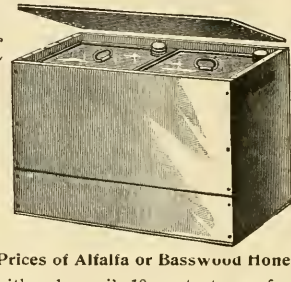

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This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

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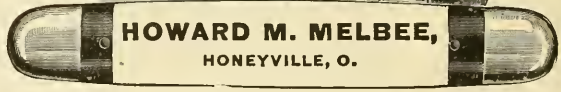
Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.



[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

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The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

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How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

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☞ Please allow about two weeks for your knife order to be filled.

A Happy New Year to all Our Readers.

ESTABLISHT IN 1861

AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

41st YEAR. CHICAGO, ILL., DECEMBER 26, 1901. No. 52.

Editorial.

The Annual Index will be found in this issue of the American Bee Journal. As many readers preserve every number, the index will be found a very valuable thing. In fact, if there were nothing else in this copy but the index, it would still be worth a good deal, as it shows the wide range of apiarian subjects treated in a single year.

Breeding from the Best has been the motto for so long a time, that when F. B. Simpson advocated in the Bee-Keepers' Review that a queen of very exceptional qualities being in the nature of a freak could not be relied upon to reproduce herself, therefore it was better to breed from a queen whose progeny were only a little above the average as to results, but showing greater constancy in her royal progeny—when Mr. Simpson advocated this doctrine, it seemed a little like the explosion of a bomb-shell. No one has proved that Mr. Simpson's position is wrong, and yet the fact remains that good results have been obtained—or at least seem to have been obtained—by following the old rule, to breed from the best.

Mr. Doolittle says in Gleanings in Bee-Culture that he has followed that rule for 30 years—breeding always from the queen that gave workers most valuable in bringing in nectar from the fields, rather than from those of the most uniform markings or purity, mentioning especially one remarkable freak from which he reared nearly all of his queens as long as she lived. Not only has his average yield per colony increased, but the uniformity of yield from his colonies has been constantly on the increase.

Comb Honey by the Case.—On another page, Mr. D. W. Working, the secretary of the Colorado Bee-Keepers' Association, has a reply to both the recent article by R. A. Burnett & Co. and our editorial on the same subject.

We fail to see how Mr. Working can expect to convince any one that it is a fair way to sell honey at wholesale by the case—simply lump it off—instead of by weight. We wonder if he'd like to buy coal in that way—by the box full—may be box even full and shaken down, and may be not.

It is certainly more nearly fair to retail sections of honey by the piece than to wholesale it by the case (no weighing being done in either), for the consumer, if he thinks he is not getting enough for his money, can have his grocer weigh it right before him. But the wholesaler has not that advantage when buying by the case at a distance.

Yes, sir; it was "quite fair" to use the $400 illustration we did. The dealer in question was not guilty of any "smart dealing." But the people from whom he bought that particular car-load of honey simply euchred themselves out of $400 by not selling their honey by weight instead of by the case. Surely, any one, if he desires to do so, can see the point in our illustration. The only fair way, as we see it, to all concerned, is to sell honey by weight, and not lump it off by the case. The wholesale buyer will sell by weight to the retail grocers, then why shouldn't he (the wholesale buyer) buy by weight?

What reasonable objection can there be to selling honey by weight? We know of none.

LATER.—One of our good Colorado subscribers seems to be quite upset over this matter, and, in fact, becomes somewhat personal and sarcastic in a private letter. He seems to think that we were the ones who made that $400. Not at all. We never handled any honey by the case, except about a half car-load, and that was sold at the same price we paid for it—was sold before it was shipped, as we didn't care for it ourselves. We don't care to buy or sell honey by the case, as we don't think it is the correct method, with all due deference to our Colorado friends, and others who sell by the case.

We could give some more good illustrations on this subject, but think it unnecessary just now.

The Cost of Drones is considerable. Dr. Buchner estimates that 1000 dones consume a little more than 4 ounces daily. A Straw in Gleanings in Bee-Culture says:

"That means that the drones reared in 28 square inches of comb will, in five weeks, consume about 9 pounds of honey."

But the Straw man estimates only a single generation of drones, whereas there may be two or more generations, although all the drones are not allowed to live five weeks. A considerable amount of honey should also be figured in what is used to feed the drone-brood.

Injury to Queens in the Mail is a subject of some discussion in Gleanings in Bee-Culture. Two of the somewhat numerous Miller family are not in entire accord as to the reason why it is that after a queen has been sent through the mail she will sometimes "go bad," although having been all right before being mailed. Arthur C. Miller says the trouble is that the queen has suffered for want of proper nourishment. He says:

Remember that a queen in the full exercise of her functions is developing two and a half times her own weight of eggs every 24 hours. It is not the sudden taking of the queen from a place in which to deposit her eggs that injures (for she can and will continue to extrude them as they develop), but it is the lack of sufficient proper food to restore the drain on her system. If such food is not available in sufficient quantity, she starves, and on the duration of such starvation depends the extent of injury to her vitality. Knowing these things, and knowing that a queen free in her hive can ask and obtain food from thousands of bees, is it irrational to believe and assert that she must suffer when compelled to depend on *twelve* bees, only a few of which may be able to supply her needs? These statements may be readily verified by any one who cares to take the necessary pains.

Dr. C. C. Miller thinks that when a queen heavy with eggs is put in the mails, her great weight is such that she can not hold on to her place, and is injured by severe concussions. He suggests the advisability of caging a queen 24 hours before mailing, so that she will not be so heavy.

Whichever one is right, or even if both are right, might not the previous caging be a good thing? If the trouble comes from starvation, because the queen demands such a large quantity of food, certainly the caging ought to help, for after 24 hours cessation of laying she would not demand so much food.

Educating Tastes in Animals.—At the Chicago convention there was a decided difference of opinion as to the liking of stock for sweet clover, some saying that cattle would not eat it, and others saying they would eat it greedily. Both were no doubt correct, the fact being that there is more than is generally supposed in the matter of having the taste educated. With no thought of reference to sweet clover, A. I. Root, in Gleanings in Bee-Culture, tells about poultry having educated tastes, so that they greedily ate raw beans.

It is also said that Texas cattle that have never eaten corn will refuse to eat it at first. It is well known that cows in a state of nature are quite dainty in their tastes, yet the family bossy may be trained to eat almost anything, including dishwater. If sweet clover hay be fed dry, it will in many cases be accepted more readily than the green fodder, and perhaps in all cases a little persistence may succeed in having stock eat sweet clover either green or dry.

The Laws of Breeding, it is pretty safe to say, have never before had the attention they are having from bee-keepers and

queen-breeders to-day. At least, there never was as much said upon the subject as at the present time in the bee-papers. Doubtless much more would have been written and known on the subject if the mating of bees could be controlled as in the case of other animals. It is at least within the range of possibilities that control of fertilization may yet become an accomplished fact, and if it ever does come it will be well to be prepared for it in advance. Even if we never reach any greater control than at present, a thorough knowledge of all that can be learned about breeding may be turned to account. Especially let the younger members of the fraternity inform themselves as fully as possible. Doubtless more or less that is confusing, and sometimes contradictory, may be found in the bee-papers, but careful sifting may get that which will be useful in leading toward improvement of our present stock of bees.

Weekly Budget.

APIARY OF R. WHEELER.—On the first page of this number is the picture of the apiary of R. Wheeler, of Alameda Co., Calif. It is located in the corner of his chicken yard, showing all the hives but one. In the further right corner is a nucleus hive, containing four 3-frame nuclei, under the same roof, where he boards his spare queens. To the left will be seen a shade-roof made of shakes 3 feet long, nailed to strips of board 2x1, three in number. It hangs on a pivot one-third distance from the edge, as shown in the picture. By throwing forward it gives room to work at the hives, changes the shade, etc. In front of the hives is coal-ashes. Between the two pieces of old boiler-tubing is planted mignonette and primrose. The hydrant and hose are in the near right corner. All is enclosed by a wire fence 3 feet high. It is a very neat apiary.

BRITISH ESTIMATE OF AMERICANS. — It is very pleasant to know that a very kindly feeling exists between this and the mother country, especially among bee-keepers. F. W. L. Sladen, a prominent British bee-keeper who is spending some months in this country, writes to the British Bee Journal:

I feel convinced that we have a great deal to learn from our American cousins. They are a progressive people, and are fast coming to the front in almost everything. The evidences of progress throughout the country, and especially in the cities, have simply amazed me. Many of the American bee-keepers' methods and appliances are unsuitable for adoption in England, on account of climatic and other differences, but there are others that ought certainly to be valuable to us, and it is to be hoped that our people will give them a fair trial, so that we may not lag behind the times.

MR. FRANK RAUCHFUSS, the energetic and wide-awake manager of the Colorado Honey-Producers' Association, was in Chicago a few days last week. He had been visiting various cities in the interest of his Association, which will doubtless result in mutual benefit. We had several good visits with Mr. Rauchfuss. So did Mr. Burnett, of R. A. Burnett & Co. Of course, the subject of selling comb honey by case *vs.* weight was discussed quite thoroughly, and we think Mr. Rauchfuss returned feeling that there is more than one side to it.

The Buffalo Convention.

Report of the Proceedings of the Thirty-Second Annual Convention of the National Bee-Keepers' Association, held at Buffalo, New York, Sept. 10, 11 and 12, 1901.

(Continued from page 805.)

THIRD DAY—EVENING SESSION.

The meeting was held at Epworth Hotel, and was called to order at 8 p.m., by Mr. Watrous, president of the Pomological Society, who announced that one of the papers set down for the afternoon session, and which had not been reached at that session, would be read then. After the reading of the paper, which was of no practical interest to bee-keepers, President Watrous said: "We have with us to-night the National Bee Keepers' Association, and their officers, in conjunction with ours, have provided a series of discussions here which we shall next have, and without further preliminaries we will now listen to Prof. James Fletcher, of Ottawa, Ont., Canada."

Prof. Fletcher then delivered the following address on the subject of

Bees as Fertilizers of Flowers.

At the last annual meeting of the Ontario Bee-Keepers' Association, I had the pleasure of delivering an address on "The Value of Bees in Fruit Orchards," in which, among other subjects, I discussed the burning question of whether bees did or could injure the fruit-grower by attacking sound fruit on the trees. The position I took at that time was that unless fruit was first broken or injured, honey-bees could not gain access to the juice of the fruits. It appears to me now, however, that the ability of bees to puncture ripe fruit need not take up so much discussion at a bee-keepers' meeting as has on some occasions been given to it.

If it is so very doubtful whether they can or cannot cause injury, it seems prima facie evident that even if this is possible—which I do not believe—the injury occurs so seldom that it need not be considered. If it were a frequently occurring or important injury, some of those who have watched bees, either as friends or enemies, would have been able to settle the matter long before this.

Another subject taken up by me at the time referred to was, "Bees as Fertilizers of Flowers," and at the request of President Root, of the National Bee-Keepers' Association, I have prepared a short paper for this evening's meeting on that subject, in which I shall direct your attention to the striking interrelation of plants and insects, and in which I trust that I may be able to lay before you facts which may be new to some of your members, must be of interest to all, and cannot but call forth admiration for the marvelous provisions which are to be seen everywhere in Nature for the bringing about of good and useful results and preventing waste. It will be found that not only are flowers absolutely necessary to bees, as the source of their food—nectar and pollen—but that bees and other insects are no less necessary to most flowers, so that their perpetuation may be secured.

This fact should be recognized by the fruit-grower, above all others, for were it not for insects, and particularly for the honey-bee, his crops of fruit would be far less than they are every year, and even in some cases he would get no fruit at all.

Failure in the fruit crop is more often due, I think, to dull or damp weather at the time of blossoming, which prevents insects from working actively in the flowers, than to any other cause. Flowers of plants are a special development of leaf-growth, produced for a special purpose, namely, for securing the fertilization, development and maturing of the seeds, which are the chief means by which a species of plant is preserved from extinction. A normal flower consists of two sets of organs—a protective envelopment made up of the corolla, which as a rule has highly colored and showy petals; and the calyx, which is mainly a protection during the time the corolla and the more important organs contained within it are developing. The other set of organs, known as the essential organs, comprise the stamens and pistils; the former of these represent the male sex, and the latter the female. The anthers—the important part of the stamens—are practically small cases containing pollen, without the agency of which the ovules or undeveloped seeds which are formed in the lower part of the pistil cannot come to maturity, or—from the fruit-grower's point of view—unless the flowers on his trees are fertilized in this way, no fruit will form, and his labor will be in vain. It is necessary that pollen should be applied to the stigma or sensitive portion of the pistil before the seeds can be developed, and it has been found that it is most advantageous to a species that the seeds of a given flower shall be fertilized by the pollen from some other flower of the same species.

A study of the devices provided by Nature to insure this cross-fertilization forms one of the most charming branches of the whole study of botany. It is a branch of the subject which may be said to have had its origin in the remarkable investigations of the great naturalist, Charles Darwin, and has since been developed in Europe by Lubbock, Anton Korner, and Miller. In this country excellent work has been done by Messrs. Halsted, Bailey, Robertson, Waugh, and others who are with us to-night; so that it will be seen that the study itself is quite recent, but,

now that attention has once been drawn to it, it can be recognized as a general principle running through all branches of the vegetable and animal kingdoms. Although, as was pointed out by Darwin, some plants can be and are fertilized by their own pollen, it is always of greater benefit to their descendants for flowers to be fertilized by pollen from other flowers of the same kind growing upon other plants. He summed up his observations with the trite observation, "Nature abhors perpetual self-fertilization," which was first enunciated in his great work published in 1862 on the fertilization of orchids. The publication of this classic work marks the beginning of one of the most important eras in the history of the science of botany. Since then endless observations have confirmed the accuracy of Darwin's law, and it has been found that in the vast majority of plants special appliances exist which will secure a more or less frequent inter-cross, and that in many these appliances completely exclude the possibility of self-fertilization.

The cross-fertilization of some plants is insured by the male and female organs occurring in separate flowers, either on the same or different plants. Familiar instances of male and female flowers on the same plant are the male catkins of such trees as the butternut, hickory, the birches, oaks and hazels. The female flowers are much less conspicuous but easily recognizable near the tip of the twigs. In the willows we find the male and the female catkins on separate trees, each tree bearing either staminate male flowers, or pistillate female ones. In many cases where the two sexes occur in the same flower, self-fertilizing is prevented by the male and female organs coming to maturity at different times, sufficiently far apart for it to be impossible for the pistil to be fertilized by the pollen borne on the same flower. In many cases there are remarkable contrivances which prevent the impregnation of flowers by their own pollen. In the species of primrose—and no better example can be found than the well known houseplant from the Himalayas—*Primula obconica*—it will be found that the flowers on different plants are dimorphic, some flowers having the tip of the pistil at the mouth of the tube and the anthers well down towards the bottom, while in other flowers this order is reversed, and the anthers are produced at the mouth of the tube and the pistil is so short that it does not reach half way up. Darwin proved by growing many plants from the seeds that by far better plants were obtained by the flower bearing long or short pistils being crossed with pollen from the other kind of flower. There are some flowers which are actually sterile to their own pollen, but can be fecundated readily with pollen from flowers growing on another plant of the same species. It has been pointed out by Prof. Waugh, of Vermont, that this is the case with the red American plums, and it is also the case with many varieties of apples and pears. This fact at once indicates the important bearing the presence of insects in an orchard at the time of blossoming has upon the production of an abundant fruit crop. Moreover, it can be shown that, owing to its size, weight and habits, no insect is so well calculated to insure the fertilization of fruit-blossoms as the honey-bee, which plies rapidly from plant to plant, and by running over the flowers in search of pollen or nectar, brushes off the pollen and carries this vitalizing element on the hairs of its body to the next flower visited. The habit of the bees, which has frequently been noticed, of confining the visits when collecting largely to the same kind of plant, is taken advantage of by the bee-keeper to store up at certain seasons particular kinds of honey, such as apple, raspberry, basswood, clover and buckwheat honeys. This habit is also manifestly advantageous to the plants on account of the pollen which is carried by the bee being of the kind necessary for the fertilization of its flowers, which could not be effected if the pollen were that of some other kind of plant.

A few weeks ago I saw a striking instance confirmatory of this well-known fact. High upon the summit of Mount Che-am in the coast range of British Columbia, are magnificent mountain meadows, undulating plateaux, thickly covered during the month of August with the greatest profusion of brilliant flowers—wide stretches of golden arnicas, crimsom, green and white mountain heathers, beds of veratrus, valerian, lupines, large, white umbillifers, crimson cartilleias, yellow adder's tongue, lilies, potentilla's and waving grasses and sedges. This gigantic flower-bed, as might be expected, simply teemed with insect life. Butterflies sailed lightly from place to place; flies, beetles and small bees hurried and scurried in every direction, making the most of the short mountain summer, and the whole producing a picture of the greatest delight to the naturalist whose only, ever-present regret was that so few others could enjoy the enchanting scene.

Conspicuous on the purple spikes of the lupines were numerous, busy, grumbling, clumsy bumble-bees, crawling over the gay flowers, rifling them of their nectar, and filling their pollen-baskets with bright red pollen, which was most conspicious on their black and white bodies, and strikingly different in color from the ordinary pollen collected elsewhere.

There are endless devices in flowers to secure the distribution of pollen at the time it will be of most use, and also for its protection from moisture after it had been emitted from the anthers. This is secured, in most instances, by the shape of the flowers, or the position of the floral leaves; again, the male and female organs of some flowers are very sensitive, the pollen being cast forth with some violence as soon as the stamens are touched by insects.

An instance of this is to be found in the common Canadian swamp-plant, called Lambkill or Swamp Laurel; the anthers are held down in small depressions round the edge of the corolla, and when an insect visits the flower, the stamens spring up, the anthers burst, and the pollen is thrown against the insect's body. The same thing may be observed in the common barberry flower.

In addition to the classes of plants already referred to, which are sterile to their own pollen (and in a few remarkable instances where the pollen is actually poisonous to the pistil of the same flower) there are numberless species which are partially sterile when fertilized with their own pollen, and to a less degree when fertilized with pollen from close relatives, such as seedlings from the same parent as the plant bearing the flowers; and finally, in a large class where there is no apparent obstacle to self-fertilization, cross-fertilization often occurs from what is known as the prepotency of pollen from another individual over a plant's own pollen.

The agency by which pollen is transported from one flower to another is either animate or inanimate, and certain peculiarities will be found in flowers characteristic of each class. The inanimate agency with most flowers is the wind, and in these flowers the pollen is dusty and exceedingly light, so as to be carried on the lightest breeze; the flowers are inconspicuous and there is no nectar nor perfume. On the other hand, in those flowers which are dependent on an animate agency, which is mainly insects of various kinds, these insects must be attracted to the flowers; and we accordingly find that brilliant colors and far-reaching odors are developed.

These alone, however, would be of small gratification to the visitors; consequently, something more satisfying is provided, namely, nectar and pollen, which form the food of vast hordes of the insect world, and particularly of the honey-bee. Moreover, the remarkable provision is made that these attractions only appear just at the time when the visits of insects can be of a definite benefit to the plant; and further than this, an endless variety in the structure of the leaves, stem and flowers of plants makes easy the access of such species as will be of use, but retards or keeps out entirely those which would only regale themselves on the sweets provided without conferring any benefit in return. A pollen-grain is somewhat analogous to a seed; as soon as it reaches the stigma, the viscid portion of the pistil, a sort of growth begins, and delicate tubes are pushed out and run down through the tissues to the ovary. Through these tubes the vitalizing principle (the fovilla) reaches and fecundates the ovules in the ovary. The period during which the pollen and the stigma are in a fit condition for fertilization is only of short duration. Those insects, therefore, which can fly quickly from plant to plant are much better adapted for this work than the slower moving, wingless, creeping insects which would be much more likely to have the pollen brushed from their bodies in their journey from plant to plant or even from flower to flower.

The size even of flying insects is also a matter of importance so that their bodies may come in contact with the anthers of one flower and the pistil of another, and most marvellous contrivances will be discovered when looked for in the blossoms of flowers, the effect of which is to exclude those visitors which are not profitable. Such are modifications in the shape and size of the corolla, the presence of tufts of hair, barbed spikes and bristles around the nectary, the secretion of the nectar at the bottom of long spurs or deep tubes of the corolla, etc. Wingless insects are kept from getting to the nectar by even more numerous constructions: reflexed bristles, copious hairs, viscid glands or viscid rings on the

stems, particularly around the flower-stalks. In some plants, as the fuller's teasel, the leaves join around the stem, forming a receptacle which catches rain and dew and forms an insuperable barrier. What is also doubtless a provision for the protection of the seeds of plants is the fact that when plants are eaten by animals or insects, it will frequently be noticed that the blossoms themselves are seldom destroyed. This may be due either to a more abundant production of thorns or bristles around these organs, or that they are rendered distasteful by certain compounds which are more abundantly secreted in the blossoms.

This fascinating branch of my subject is far too wide for me to more than refer to it now; but I am convinced that shape, position, nature and adornment of every part of a plant has some special significance if we can only discover it. That we have not yet perceived of what advantage these are, by no means justifies us in assuming that no advantage exists, and the search for the meaning of the innumerable shapes of flowers and leaves, their positions and behavior under varying circumstances provide a limitless source of pleasure and valuable instruction to whomsoever takes the matter up earnestly, verifying carefully each observation and exercising every care not to be carried away by the subject and jump to conclusions.

I have with me here to-day some excellent charts made by my friend, the Rev. Thomas Fyles, of Quebec, the president of the Entomological Society of Ontario. These will enable me to illustrate some of the points I have referred to, far better than I could otherwise have done. JAMES FLETCHER.

Some fine, colored charts were here exhibited, and much information was given about each in turn. Some of the points explained, were as follows:

No. 1.—POLLEN-GRAINS.—Although so small, the minute pollen-grains are of various sizes and shapes, and have their surfaces beautifully ornamented in a variety of ways. In fact, these minute objects are just as characteristic and easily recognizable under the microscope as are the different kinds of seeds. The pollens of several well-known plants were shown, as illustrative of the different shapes and markings of pollen-grains. The pollen of pine trees, which is very light, is produced in enormous quantities, and when carried on the wind and deposited at a distance, has sometimes been taken for showers of powdered sulphur. An instance of this was brought to his notice during the past summer at Armstrong, in British Columbia. A remarkable occurrence illustrating the extreme likeness of the pollen-grains of pine trees was one of these so-called sulphur showers on the deck of a ship nearly 200 miles from land. The doctor of the ship, who happened to be a botanist, detected the true nature of the yellow deposit by putting some of the material under his miscroscope.

No. 2.—MOUTH-PART OF THE HONEY-BEE, the bumble-bee and the wasp.—The differences in the mandibles of these insects were pointed out and explained. The mandibles of the honey-bee are provided for the working of wax, and this only when softened at a high temperature. Those of the wasp for gnawing wood for the manufacture of the paper with which their nests are surrounded.

No. 3.—FLOWERS OF THE PEA FAMILY.—These were illustrated by figures of the Bread bean, showing the distinct contrast of black and white, the Sweet pea and the Broom. The different structures were explained in their bearing on the question of cross-fertilization, attention being drawn to the brush-like stigma and the elastic keel.

No. 4.—A FLOWER OF THE SUN-FLOWER FAMILY.—The many points of interest in these flowers, and the devices by which they are prevented from becoming self-fertilized, were explained.

No. 5.—FLOWERS OF THE COMMON PRIMROSE, referred to above, showing the two forms with long and short pistils.

No. 6.—FLOWER OF TROPÆOLUM.—Attention was drawn to the markings and tufts of hair in the throat of the garden flower known as the Nasturtium, which acted as path-finders to insects of a proper size and shape, so as to secure fertilization to the seeds when they visited the flowers for the sake of the copious nectar in the long hours.

No. 7.—FLOWERS OF ANTIRRHINUM.—The necessity of a large, strong insect, such as a bee, to open the Snap-Dragon flower and reach the nectar was evident, but it was stated that sometimes bumble-bees gnawed a more direct entrance to the nectar at the base of the flower. After this entrance was once made, honey-bees might be seen rifling the flowers through this hole instead of entering by the proper opening. This Mr. Fletcher believed was an analogous case to honey-bees sucking the juice from injured fruits.

No. 8.—THE NIGHT-FLOWERING CATCHFLY.—The blossoms of the Pink family are extremely interesting. There are 10 stamens. The flowers open after sun-down, when they are white and conspicuous. Sweet perfume is emitted, and during the first evening of the three in which each flower expands, five of the anthers are pushed out of the flower-tube and shed their pollen, after which they dry up and fall away. The next morning the petals curl up and present the appearance of a faded flower. During the day there is no perfume, but in the evening the petals again unfold, the scent returns, and the other five anthers appear. It is not until the third evening, when all the pollen is exhausted, that the pistil lengthens out and exposes itself to receive pollen from other flowers.

Several other charts of a similar nature to the above were shown, and their bearing on the subject explained. In bringing his remarks to a close, Dr. Fletcher spoke of the great value to all classes of workers of the introduction of "Nature Study" into our schools and universities. He spoke highly of the work which had been done by Profs. Bailey and Craig of Cornell University. He knew of nothing so valuable in education as inculcating a knowledge, and with it a desire for knowledge, concerning all the common objects which surround us on every side, an ignorance of which in most classes of the community was such a conspicuous characteristic.

(Continued next week.)

Contributed Articles.

Selling Comb Honey by the Case.

BY D. W. WORKING.

ACTING on the suggestion of the Editor of the American Bee Journal, I read before the Colorado State Bee-keepers' Association a proof of the article by R. A. Burnett & Co., published on page 759. This article, which seems to have been written especially for the enlightment of Colorado bee-keepers, was discussed at some length by our members; and I venture to offer an abstract of their remarks.

Mr. Frank Rauchfuss, manager of the Colorado Honey-Producers' Association, said:

"I plead guilty to writing one of the letters quoted in that article. If we guarantee a weight for separatored, half-separatored, and unseparatored honey, is it not virtually the same thing as selling by weight? In one of Burnett & Co.'s letters to us, they said they were not willing to buy an unknown quantity. I wrote back that they were buying a known quantity. In one instance the buyers got 200 pounds more than they were figuring on. It is an injury and an imposition to make the statements in that article without stating the whole thing. A house of that standing should know something of the difference between separatored and unseparatored honey. They want to buy light weight honey by the pound, and as soon as concessions are reached they will throw out the heavy-weight honey. It has worked that way, and it will work that way again."

R. C. Aikin—I think our system is perfectly fair. It guards against wrong-doing on both sides.

H. C. Morehouse—I fully endorse those remarks. The article misrepresents the position of our people.

T. Lytle—When the buyer asks for quotations by the case, he makes a bid on the guaranteed weight. He is not injured or abused in any manner.

Mr. Aikin—Selling by the case makes it an easier matter to do business. We have rules to sell by.

Mr. Rauchfuss—None of the grading rules but ours have considered the question of weight. We have a standard section, which they do not have in other States. Having a standard section, we can have a standard of weight. How can you adopt a set of rules, with a standard section, without taking weight into consideration? I can show quantities of honey in our store now, graded as No. 2 under our rules, which will be sold as No. 1 in Eastern markets. Selling by

the case overcomes hair-splitting differences in tare. If a lot of separatored honey, for example, does not net 21 pounds, we throw in a few cases extra; if they net heavier than that weight, we do not charge the buyer for the overplus. If the same conditions existed in Eastern markets, it would be more satisfactory to the general trade.

Mr. Aikin—I have a suspicion that the writer of that article has been bitten by some one with grading rules not so good as ours.

W. Z. Hutchinson—If Burnett & Co. knew that you had such rules, that article is not fair.

Mr. Aikin—If we sell by weight, then they will insist that we sell them light-weight honey, and they will sell by the case.

J. B. Dodds—And if you go to Chicago with the light-weight honey then they will want heavy-weight honey. We often put in heavy-weight honey. We often put in heavier weight in packing than we would if it were not for those rules.

Mr. Rauchfuss—When honey is sold by weight only, no distinction is made between separatored and unseparated honey. But by our rules we admit that half-separatored and unseparatored honey are less desirable than separatored, which is easier to lift out without damage, by the grocer. By our system, there is more uniformity of weights. We guarantee weights, and give a man every pound he buys.

The attentive reader will have noticed that the foregoing discussion is a defense of the Colorado system rather than a criticism of the article by Burnett & Co. This is natural. Our people are familiar with the merits of their own methods; they could not be perfectly sure of the merits of the arguments favoring another system by a single hearing of such an article as that read to them.

Burnett & Co. could not well be ignorant of the Colorado grading rules. These rules have been published in the American Bee Journal. A copy has been furnished to Burnett & Co.; and it was unjust to suppose that they are too stupid to understand them. In spite of the knowledge which they must have had to the contrary, they beg the whole question by referring to the, "pig in the bag." Let me quote the Colorado rule for No. 1 honey:

No. 1—Sections to be well filled and capped, honey white, slightly amber, comb white and not projecting beyond the wood, wood to be well cleaned; cases of separatored honey to AVERAGE 21 pounds net per case of 24 sections, with a minimum weight of not less than 20 pounds for any single case; cases of half-separatored honey to AVERAGE not less than 21¾ pounds net per case of 24 sections, with a minimum weight of 20¾ pounds for any single case; cases of unseparatored honey to AVERAGE not less than 22½ pounds net per case of 24 sections, with a minimum weight of 21½ pounds for any single case.

Will any intelligent reader of the American Bee Journal believe that the man who buys honey guaranteed to be packed according to that rule is buying a pig in a bag? Indeed, will not the reader know that the buyer, whether of one case or a car-load of cases, is sure to get at least a certain, definite amount of honey?

The argument in which the "bag of tea, coffee or sugar" figures, does not lack ingenuity. But why did not this wise logician include also the bag of flour? Does it weigh exactly a hundred pounds? Not at all. And yet flour is quoted by the hundred-weight. We buy a great variety of articles by the package. And the grocer who sells a section of honey as a pound is probably giving as much weight for the money as he does when he sells certain other "pound" packages. People who buy honey by the section can easily be made to understand that sections are very likely to vary in weight. Can it be that any one is so lacking in discernment as to suppose that every section (pound section, if you please) would be equal in weight to every other section?

Perhaps I am inexcusably ignorant; but I must confess that I do not know of a single association of bee-keepers that is "advocating the abandoning of weighing their honey." I am sure our rules make it necessary to have the scales pretty close by when packing comb honey—as the readers can not but know, having read the rule quoted above.

A word as to the editorial in the American Bee Journal. Is it quite fair to use the example of a car of honey which cleared the buyers $400 "beyond a fair profit" as an excuse for intimating that the producer was not dealing squarely? That dealer might be accused of "smart dealing." The producer doubtless knew what he was selling, and was satisfied with the price. If I am not blind to its meaning, the editorial illustration was simply lugged in to furnish excuse for giving honey-producers a lot of goody-goody advice, while, if it really showed anything, it illustrated the readiness of the wholesale dealer to take the advantage of the producer.

I am not speaking for the rules of any other association; but I am sure the rules of the Colorado State Association can not be fairly interpreted to the hurt of the buyer. He is sure to receive no less than a very definite minimum weight. If he gets more, no one will complain. Of course, there are individual bee-keepers who can not or will not grade honestly. I am not defending them. Arapahoe Co., Colo.

Apiary Inspection in the State of Michigan.

To the Honorable Dairy and Food Commissioner:

SIR:—I herewith submit my report for the work done during the months of July, August, September and October as State Inspector of Apiaries. I have visited in all 206 apiaries, having in them a total of 3,286 colonies. I have found 402 diseased colonies, making a total of 12.1 percent of those inspected. I have found the disease present in 119 apiaries, which is 57.7 percent of the whole number inspected. It will be noticed that the majority of the yards that contained the disease have in them only a few, and many times only one colony. It is impossible to tell exactly how many of the diseased colonies have been destroyed by the owner. Perhaps 50 percent of those condemned. I have been compelled to burn only one colony against the will of the owner. These apiaries were scattered through the counties of St. Joseph, Hillsdale, Lenawee, Washtenaw, Jackson, Calhoun, Barry, Eaton, Ingham, Livingston, Oakland, Macomb, St. Clair, Lapeer, Genesee, Shiawassee, Clinton, Ionia, Muskegon, Montcalm, Wexford, Benzie, Kalkaskia and Antrim.

I have found the disease more prevalent in the older sections of country, that is, there is more disease in southern and central Michigan than in the northern part of the State. In the north it is confined to localties and is not of very long standing. In almost every case it can be traced back to the bringing in of diseased bees or fixtures from the south. In the southern part, however, the disease is scattered promiscuously and breaks out in yards, infecting many colonies, without any source of contamination.

I have found many bee-keepers who are perfectly ignorant of the disease, and even when it is present in their yards and a large proportion of their bees are diseased, they fail to see that anything serious is wrong. These bee-keepers, of course, belong to the class who keep a few bees as a side-issue and are not posted in modern apiculture. Then, again, I have found the disease present in the apiaries of specialists in bee-culture, who are unfortunate enough to be located in the same vicinity with one of these bee-keepers who are not posted. The uninformed man will not listen to the advice and pleadings of the specialists, but will leave diseased colonies to die, and be robbed out by the bees from the larger yard, in this way working ruin on the helpless specialist, who cannot control the action of his ignorant neighbor. Then, oftentimes, when this specialist resorts to the protection of the law to compel his neighbor to clean up the diseased yard, he is looked upon by the people of his vicinity with utmost contempt.

The most active agents in spreading the disease are, first, that of robbing out colonies which have become weak and run down; and, second, that of using old hives in which the bees have died from the disease.

A grave difficulty arises when treating the bees to overcome foul brood, in that it is a very hard matter to impress upon the uneducated man the necessity of careful work, and the nature of bacteria. He will neglect some small but important matter, or fail to take some necessary precaution in order to insure success. As a consequence, the treatment is frequently a failure. This is not always the case, however; many apiarists are eager to learn all that is to be known about the disease, and by careful, persistent work have stamped it out of their yards. The treatment used by many apiarists has been to kill the infected colony with sulphur, remove the hive to the cellar, and cut out and save for home use all good honey, scrape clean and disinfect the hive, finally burning all refuse, scrapings and inside furniture. This method of treatment entails much less work than attempting to cure the colony, and the honey and also the hive is saved.

The needs are great, and many localities where the disease is known to exist have not been visited at all. Many of the localities visited this summer must be covered again at the beginning of next season to insure the effectual stamping out of the disease. I have met with the most hearty co-operation on the part of the intelligent apiarists of the State. They have not only manifested an interest in the work, but in many cases have materially assisted in the eradication of the disease in their locality. Respectfully submitted.

JOHN M. RANKIN.

Report for 1901—Sweet Clover and Alfalfa.

BY WM. STOLLEY.

Like most of the readers of the American Bee Journal, I also will make my annual report, as usual.

Although drought-stricken as was the entire West, the past season, the great value of sweet clover and alfalfa as forage-plants and nectar-yielders is again clearly proven, by the crops of hay and honey I harvested.

Regarding the product of my apiary, my report is as follows:

From 21 colonies run for extracted honey, I got 3105 pounds, or an average of about 148 pounds per colony. From 5 colonies in New Heddon hives run for comb honey, I got 380 well-filled and perfectly capped sections, or an average of 76 sections per colony, and, besides, 60 pounds of extracted honey. I thus got a total of 3545 pounds of surplus honey from 26 colonies of bees, spring count, and plenty for the bees to winter on besides.

I had but 5 swarms, all told. My best colony run for extracted honey gave me 193 pounds of surplus, and my best colony run for comb honey gave me 136 sections and 12 pounds of extracted. I got 46 pounds of bright yellow wax from cappings, and reared 19 extra-fine queens from my choicest colonies for my own use; and increased, by the nucleus plan, from 26 to 36 colonies. Ever since October 18, my bees have been packed for winter, and had a general flight to-day (Nov. 12.) But I sustained quite a loss, in the past season's surplus, on account of the purchase of 5 queens in the late summer of 1900. The queens I got were reputed as of extraordinary value, and a remarkably superior strain. When these queens arrived, they proved to be undersized; but that did not scare me, because I have seen many a small queen which was much the superior of larger queens.

But when one of those queens proved herself to be a most miserable hybrid, my confidence in this extra "superior strain" was greatly shaken, and with considerable apprehension as to the value and worth of the other four, I waited results after wintering them.

The hybrid queen was replaced by another queen, and was introduced as late as October 12, 1900. In the spring following, three queens of that "superior strain" of bees proved to be practically worthless, and very poor layers, while one of them averaged as medium-good. Only the one I received in October, to take the place of the little black hybrid, proved to be a really fine queen, and her colony is one of the very best in my apiary now.

Two of the queens, which I bought as superior stock, I killed in early summer, and united their colonies with the colony of the queen that was lacking, to give her a trial in the season.

The united three colonies of this "superior strain" did not average in strength with any one of my ordinary colonies, after forming but one colony. The united colonies, if their queen had been all right, would have given me about 450 pounds of surplus extracted honey for the season that I removed good queens to make room for the "superior stock": while the three united colonies of this "superior strain" have actually given me only 43 pounds surplus! Hence, I actually lost about 400 pounds of honey, in consequence of the *inferiority* of these 3 queens—a loss of $60, since I sell my honey at 15 cents per pound.

I have but a small apiary, but I aim to have a superior queen in every hive, and if any one of them is lacking, she has to make room for something that grades well.

Some 18 or 19 years ago a Rev. Mr. Briggs, of Iowa, (if I remember the location rightly) made, in substance, the following proposition in the American Bee Journal, to breeders of queens generally:

I (Rev. Briggs) will pay $100 for *the best queen* sent me by any queen-bee breeder, upon the following conditions, to-wit:

1.—All queens entrusted to me by any party, will receive at my hands, the very best of care and attention, and an accurate record of her work will be kept.

2.—At a certain date (stated) a disinterested committee (here the widely known parties comprising that committee were named) will be the judges in the contest, and the party whose queen is declared to be the premium queen will get the $100, but the queen thus awarded becomes my (Rev. Briggs') property.

3.—I (Rev. Briggs) also reserve the right, while making this offer, to retain any and all the queens sent me, upon the payment of $2 for each queen retained by me, and I will return all queens not wanted by me, free of charge, if so desired by the party or parties sending me queens.

Now, I do not remember the name of the party whose queen won the $100, but I ordered one of the queens reared in the subsequent year from the $100 queen by Rev. Briggs and paid $5 for that queen, and it was the cheapest and best queen I ever bought.

Fifteen of the 36 queens now in my apiary are "Briggs queens," and they are in the lead as mothers of honey-producers.

I have other valuable strains of bees, obtained from other dealers in queen-bees, but the "Briggs strain" proves, best of all of them, that "*blood will tell.*"

Now, Mr. Editor, I wish that another Rev. Briggs, as honest and reliable as was the one I have mentioned above, would work a similar scheme, and I, for one, will cheerfully pay $5 for one of the offspring of such queens reared "in a natural way": but I want the bees to rear the queens under the most favorable conditions; and I want them to build their own queen-cells from bottom to tip, too. No stick-made queen-cups for any queens that I wish to introduce into any colony in my apiary!

I read with great interest the proceedings of the meeting at Buffalo, and always "reach out at once" for the "Old Reliable" when it comes. Hall Co., Neb.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses. By E. E. HASTY, Sta. B Rural, Toledo, O.

TIME OF QUEEN EMERGENCE.

Yes, sir'ee. Dr. Miller, if it's true with regularity, or anything like regularity, that queens emerge in full colonies in 15 days, and only in nuclei or other depressing circumstances take 16 days, then that venerable (not sweet) 16 must come out of the books. But first let us hear from Maine, and Oregon, and Texas, and other places—honey-flow and dearth—early, mid-season, and late. Locality, crop conditions and season are normal things; but nuclei are abnormal things which should not rule. Page 685.

SWARMS AND FULL SHEETS OF COMB FOUNDATION.

Sounds reasonable that a swarm *might* consider sheets of foundation simply as partitions, and object to so many ridiculously narrow rooms. But a good many swarms *have been* successfully hived on full sheets, I take it. Page 686.

SIX HONEY CROPS IN TWELVE.

Six paying crops in twelve years, as an actual experience, rather takes us down in our estimate of bee-keeping in the irrigation regions. And it seems that we can hardly expect as good as six out of twelve unless there is something else besides alfalfa to prop up with. Page 695.

THAT UNFORTUNATE GLUCOSE-FEEDING.

Once more I will refer you to that ton of glucose on pages 579, 681 and 707. I supposed that it marked another milestone on a road that we would prefer fenced up—or rather never graded out. It used to be the case that pure glucose would only be taken when bees were in a state of semi-starvation, and that they would stop taking it as soon as they had a rather small supply—never building comb and storing surplus with it. When I read of so large an amount as a ton I feared that improvements of the article had changed some if not all of this. Glad if we don't have to believe so just yet. I must cry for mercy as to the dull way I read the editorial. The time of year forbids the idea of fraudulent surplus. We do not know that he succeeded in feeding it all. And to work off what he did feed he may have mixed it with something better.

STARVATION FOR BLACK BROOD.

That was a wise remark of McEvoy's on the black-brood question, page 710. Imprisoning bees off the combs for four days without feeding uses up the infected honey all right—so far, well: but it also gets the bees themselves into such a lean and inactive condition as they *must not be in* if they are to combat disease to advantage: and it takes days to get them out of that condition. So it is in doubt whether that particular manipulation does more good than harm, or more harm than good.

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CONVENTION NOTICES.

Wisconsin.—The Wisconsin State Bee-Keepers' Association will hold its annual convention in the State Capitol, at Madison, Feb. 5 and 6, 1902. This promises to be a large convention. All are invited to attend. There will be excursion rates of 1½ fare for the round-trip, good for all of the first week in February.

N. E. FRANCE, Pres. ADA L. PICKARD, Sec.

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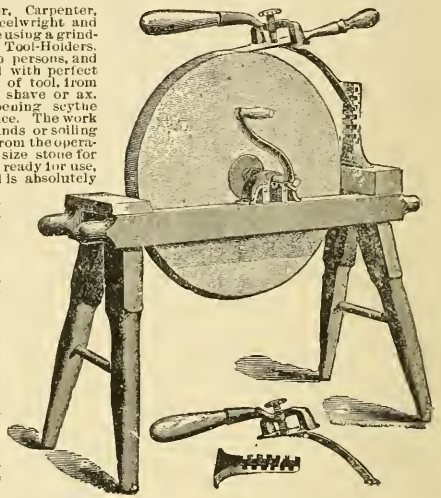

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REDUCED RATES FOR CHRISTMAS AND NEW YEAR HOLIDAYS.

The Nickel Plate Road will sell tickets Dec. 24, 25, and 31, 1901, and Jan. 1, 1902, at rate of a fare and one-third for the round-trip, to any point located in Central Passenger Association territory, good returning to and including Jan. 2, 1902. Pullman service on all trains. Individual Club Meals ranging in price from 35 cents to $1.00, served in Nickel Plate dining-cars. Address, John Y. Calahan, General Agent, 111 Adams St., Chicago, for particulars. Depot, Van Buren St. and Pacific Avenue, on the Elevated Loop. 45—49A4t

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The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,
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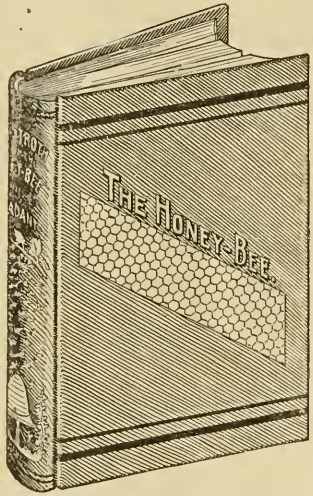

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We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
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Prices subject to market changes.
Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.
Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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WOOL MARKETS AND SHEEP, CHICAGO, ILL.
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47—50A3t

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"Buckwheat Cakes and Honey"

Words by EUGENE SECOR.
Music by GEORGE W. YORK.

This song was written specially for the Buffalo convention, and was sung there. It is written for organ or piano, as have been all the songs written for bee-keepers. Every home should have a copy of it, as well as a copy of

"THE HUM OF THE BEES in the APPLE-TREE BLOOM"

Written by
EUGENE SECOR and DR. C. C. MILLER.

PRICES—Either song will be mailed for 10 cents (stamps or silver), or both for only 15 cents. Or, for $1.00 *strictly in advance* payment of a year's subscription to the American Bee Journal, we will mail both of these songs free, *if asked for.*

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Perfection and Artistic Elegance

a salient feature of this map not approached by any similar publication.

AXXXX Marginal Index

is one of the invaluable features.

It gives an alphabetical list of countries, their location on map, style of government, population, area, products, minerals, imports, exports, etc.

It has been pronounced a XXX **Photograph of the World**

The 1900 Census XX of the largest American Cities is given.

One side shows a grand map of our great country, with **counties,** railroads, towns, rivers, etc., correctly located. The other side shows an equally good map of the world. Statistics on the population, cities, capitals, rivers, mountains, products, business, etc., a veritable photograph of the UNITED STATES AND WORLD.

The map is printed on heavy map paper and is mounted on sticks ready to hang. Edges are bound with tape.

1901 EDITION.—Every reader should consult it every day. The plates show all the new railroad lines and extensions, county changes, etc. Especial attention is given to the topography of the country; all the principal rivers and lakes, mountain ranges and peaks are plainly indicated. The leading cities and towns are shown, special attention being given to those along lines of railroads. The Canadian section of the map gives the provinces of Ontario, Manitoba, and British Columbia, with nearly all of Quebec and New Brunswick, the county divisions being clearly marked. The Southern portion of the map includes the Northern States of the Republic of Mexico, and the Bahama Islands.

On the reverse side is the Library Map of the World. The largest and most accurate map on Mercator's Projection ever produced. The political divisions are correctly defined and beautifully outlined in colors. The ocean currents are clearly shown and named. Ocean steamship lines with distances between important ports are given. A marginal index of letters and figures enables one easily to locate every country in the world. A series of short articles in alphabetical order is printed around the border of this map in large, clear type, containing valuable information concerning agricultural, mining, and manufacturing statistics, also the value of imports and exports in dollars. The area, population, form of government, and chief executive of every country in the world is given up to date, also the names of the capitals and their population. **The Inset Maps** are elegantly engraved and printed in colors. They are placed in convenient positions around the United States map, and will be invaluable to every person desiring a plain understanding of our possessions. An inset map of China on the World side of map adds to its value.

☞ Two maps on one sheet, all for only **$1.50,** sent by mail or prepaid express; or we will forward it free as a premium for sending us **Three New Subscribers** at $1.00 each; or for $2.00 we will send the Map and the American Bee Journal for one year. Address,

GEORGE W YORK & CO.,

144 & 146 Erie Street, CHICAGO, ILL.

THE CHRISTMAS LADIES' HOME JOURNAL is the largest number of that popular magazine ever issued, and the quality seems in keeping with the quantity. It opens with an account of "The People Who Help Santa Claus," after which comes a sweet story by Elizabeth McCracken, entitled, "The Baby Behind the Curtain." John Fox, Jr., the clever Kentuckian, contributes a short story, and the Journal's new serial of the Western metropolis, "The Russells in Chicago," is begun. Rudyard Kipling tells amusingly "How the First Letter was Written," and Elliott Flower has a laughable sketch, "The Llufield's Christmas Dinner." The Journal's two romances, "Christine" and "A Gentleman of the Blue Grass," are given their second and third installments respectively, and the library of the "Bradley House" is shown. Mr. Bok's editorial takes the form of a personal and somewhat confidential chat with his readers. There are also a children's Christmas play by Ednah Proctor Clarke, some touching stories of "The Other Side of the Town," by the Rev. David M. Steele, and an interesting account of the Sistine Madonna done in needlework. The various departments are unusually strong, and the whole magazine is full of Christmas spirit. A noteworthy feature, pictorially, is the double page of college girls, on which are shown groups of college girls from nearly every girls' school of note in the country. This is only the first in a "picture story" of one hundred photographs, which will show "What a Girl Does at College." The cover design is a beautiful piece of work by Thomas Mitchell Pierce. By The Curtis Publishing Company, Philadelphia. One dollar a year; ten cents a copy.

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W Chester, Pa.

Change of Chicago Passenger Station.

Beginning December 29, all passenger trains of the Nickel Plate Road will arrive and depart from Grand Central Station, 5th Ave. and Harrison St., Chicago, instead of Van Buren St. Station, as formerly. 49—52A1

PAGE

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know about the price and quality of Page Fence? We should be pleased to tell you. Write us.

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IMPROVED STRAIN GOLDEN ITALIANS.

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bred from stock whose tongues measured 25-100 inch. These are the red clover hustlers of America.

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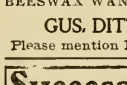
They take care of them. Mails loaded with words of praise from chicken people. Our great catalogue turns the lime light on the poultry business. Five different editions, five languages. English edition 4 cents, others free.



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is the incubator for the poultry raiser, whether farmer or fancier. Anyone can run them, because they run themselves. Anyone can own them, because the price is right. Machine and results guaranteed; you take no risk. Our Common Sense Brooder is the best at any price, and we sell it very low. Handsome catalogue containing hundreds of views and full of honest poultry information, mailed free. When writing address nearest office.

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Wanted Comb and Extracted Honey!

State price, kind and quantity.

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Wanted—Honey.

Car Lots or otherwise; will pay highest market price, spot cash. Address, stating quantity, quality, and price desired at your station. Will send man to receive when lot is large enough to justify. THOS. C. STANLEY & SON,
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Our Mammoth Poultry Guide explains all. Finest and most complete poultry book printed in colors. WORTH $25 but sent postpaid for only 15 cts. Get one and learn how to make poultry pay.

JOHN BAUSCHER, JR., BOX 94 FREEPORT, ILL.

Wanted Comb Honey and Beeswax. State price delivered in Cincinnati.

G. H. W. WEBER,
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THE NICKEL PLATE ROAD

will sell tickets Dec. 24, 25 and 31, 1901, and Jan. 1, 1902, at rate of a fare and a third for the round-trip to any point located in Central Passenger Association territory, account Christmas and New Year Holidays. Return limit including Jan. 2, 1902. Through service to New York City, Boston, and other Eastern points. Chicago Passenger Station, Van Buren St. and Pacific Ave., on the Elevated Loop. For further information address John Y. Calahan, General Agent, 111 Adams St., Chicago. 46—49A4t

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Dec. 19.—The honey market is of a slow nature with little change in price of any of the grades. At this season of the year many of the retailers have laid in a supply sufficient to carry them over the holidays. Choice grades of white comb honey, 14 @15c; good to No. 1, 13½@14c; light amber, 12½@13c; dark grades, including buckwheat, 10@12c. Extracted, white, 5½@7c; amber, 5½@5½c; dark, 5@5½c; the scale of prices varying according to flavor, body and package. Beeswax steady at 28c.

R. A. BURNETT & CO.

NEW YORK, Dec. 19.—Comb honey continues to be in good demand, and while the market is not overstocked, arrivals of white honey are sufficiently large to meet the demand, while buckwheat is rather scarce. We quote: Fancy white, 15c; No. 1, 14c; No. 2, 12@13c; and buckwheat, from 10@12c. Extracted remains dull and inactive with plenty of supply of all kinds. In order to move round lots, it is even necessary to shade the quotations, which are: White, 6@6½c; amber, 5½@6c; dark, 5@5½c; Southern, 55@60c gallon, according to quality. Beeswax firm at 28c.

HILDRETH & SEGELKEN.

CINCINNATI, Dec. 20.—The honey market is rather dull on account of the warm weather. Extracted sells only to manufacturers from 5@6c; better grades alfalfa water-white from 6@7c; white clover from 8@9c. Fancy white comb honey sells from 13½@15½c.

C. H. W. WEBER.

ALBANY, N. Y., Dec. 20.—Honey in good demand now, as this is the most satisfactory time to sell. Grocerymen are stocking up and will buy lines, when late they only buy enough to piece out. Fancy white comb, 15@16c; mixed, 14@15c; buckwheat, 12@13c. Extracted, white, 6½@7½c; mixed, 6@6½c. H. R. WRIGHT.

OMAHA, Dec. 20.—New comb honey is arriving by express in small quantities from Iowa and Colorado, and selling at $3.50 per case in a retail way. California extracted honey is being offered carlots at 4½@4¾c per pound, f.o.b. California shipping-points, but we have not heard of any sales having been made thus far. The production of extracted honey seems to be quite large this year in Colorado, Utah and California. PEYCKE BROS.

BOSTON, Dec. 20.—The demand for honey is easing up, somewhat due in part to the holiday season at which time it is much neglected.

Our market at the present time runs 16c for strictly fancy in cartons; No. 1, 14@15c; No. 2, 12@13c. Extracted, light amber, 7½@8½c; amber, 7c. BLAKE, SCOTT & LEE.

DES MOINES, Dec. 20.—There is very little doing here in new crop of honey. Some small lots of near-by produced comb honey are on the market and selling in a retail way at $3.50 to $3.75 per case. We do not look for much trade in this line before Sept. 1. Our market does not consume a great deal of extracted honey.

PEYCKE BROS. & CHANEY.

DETROIT, Dec. 20.—Fancy white comb honey, 14@15c; No. 1, 13@14c; no dark to quote. Extracted, white, 6@7c. Beeswax, 25@26c.

M. H. HUNT & SON.

SAN FRANCISCO, Dec. 20.—White comb, 11@12½ cents; amber, 8@10c; dark, 6@7 cents. Extracted, white, 5½@6c; light amber, 4¼@5c; amber, 4@—. Beeswax, 26@28c.

Not much doing in this center, but there are no large stocks here of any description, and current values are being, as a rule, well maintained. There is more moving outward at present from southern producing points than from here. Some apiarists are reported holding back supplies, anticipating better prices in the spring.

KANSAS CITY, Dec. 20.—Up to the present time only small lots of new comb honey have been on the market, and these met with ready sale on the basis of 15@16c per pound for fancy white. For next week heavier receipts are expected and quotations are issued at $3.10@$3.25 per case for large lots, which would be equal to about 14@14½c; the demand being quite brisk, a firm market is anticipated. Inquiries for extracted are a little more numerous, but large buyers still seem to have their ideas too low. In a small way 5½@6c is quotable.

PEYCKE BROS.

Send for circulars regarding the oldest and most improved and original Bingham Bee-Smoker

FOR 23 YEARS THE BEST ON EARTH.

25Atf T. F. BINGHAM, Farwell, Mich.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

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OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

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JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Nottingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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☞ In order to accommodate the largely increased passenger business at Chicago Van Buren Street Depot, it has been found necessary to build a new and more commodious passenger station. Therefore, commencing December 29, all passenger trains of the Nickel Plate Road will arrive at and depart from Grand Central Station, 5th Ave. and Harrison St., during the erection of the new depot. 50—52A1

A MILLION TESTIMONIALS DON'T CONVINCE 30 DAYS TRIAL WILL

Our 50 egg compartment hatchers have advantages over all other incubators. Bantams at $5, $9.50 and $15 for 50, 100 and 200 egg sizes. Hatch every good egg. Send 2 cents for No. 3 catalogue.

BUCKEYE INCUBATOR CO., Springfield, Ohio.

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Root's Goods at their Factory Prices.

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The freights from Cincinnati are the lowest.

Prompt service is what I practice. Satisfaction guaranteed.

Catalog mailed free—send for same.

The Standard Honey-Jars, Langstroth Hives, etc., at lowest prices.

You will save money by buying from me.

C. H. W. WEBER,
2146-2148 Central Ave., CINCINNATI, OHIO.
Successor to Chas. F. Muth & Son and A. Muth.
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Why does it sell so well?

Because it has always given better satisfaction than any other.

Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

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Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

Langstroth on the Honey-Bee—Revised,

The classic in Bee-Culture—Price, $1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

Please mention Bee Journal when writing.

Texas Bee-Keepers.

New Branch Office. We beg to announce the opening of a branch office and warehouse at 438 W. Houston St., San Antonio, Texas. Rates of transportation from Medina in less than car-load lots are high, and it takes a long time for a local shipment to reach Southern Texas points.

Low Freight and Quick Delivery. To secure these two necessary advantages—low freight and quick delivery—and to be better prepared to serve the interests of our Texas friends, is our reason for establishing this new branch office. No other point in Southern Texas is better adapted to serve as a distributing point than San Antonio. It has four great railroads—the Southern Pacific R. R. east and West—the International and Great Northern R. R. from Laredo up through San Antonio and Central Texas, the San Antonio and Arkansas Pass R. R., and San Antonio and Gulf R. R. It also has the American, Wells-Fargo and Pacific Express Companies.

San Antonio as a Shipping-point.

Our Managers. We have secured as managers Mr. Udo Toepperwein, formerly of Leon Springs, and Mr. A. Y. Walton, Jr., both of whom are well known to the bee-keepers of South and Central Texas. They are also thoroughly familiar with practical bee-keeping and all matters associated with it, and any orders sent to this branch will receive prompt, careful attention.

Our Goods. As usual our motto is to furnish the best goods of the most approved pattern. We do not undertake to compete in price with all manufacturers. Bee-keepers have learned that it does not pay to buy cheap supplies, for a saving of 10 cents on the first cost of a hive may be a loss of many times this amount by getting poorly made and ill-fitting material. Every year brings us many proofs that our policy of "the best goods" is a correct one.

Our Catalog. Very few changes in prices will be made in our new catalog, so do not delay your order, but send it at once. You will be allowed a refund if lower prices are made, and in case of higher prices ruling in the new catalog, if any, you will secure the benefit by ordering now. Catalog and estimates may be had by applying to the address given below.

Our Invitation. Whenever you visit San Antonio you are invited to call at our office and make it your headquarters. Here you will find a display of Apiarian Supplies not equaled elsewhere in Texas. You will also find on file the leading bee-journals to pass pleasantly your leisure time.

Spanish Catalog. Some of you may read Spanish, or have a bee-keeping friend who does. If so, call for our Spanish catalog. It's sent free.

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